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ANOTHER RUBBER CONSOLIDATION.

THE purchase by the United States Rubber Co. of the largest outside concern in the trade was business of a type particularly obnoxious to such statesmen as—well, Senator Lexow, of Nyack, who once got up an official investigation of "trusts," including the "rubber trust." Mr. Lexow's mind seemed full to bursting with two propositions, which impressed him more forcibly as more evidence to the contrary was produced. He held—

I. That a manufacturing corporation, having already a surplus productive capacity, acts against public policy in buying another factory, since its object is to restrict production and thereby put prices too high. If it wished only to make and sell more goods, it would employ its surplus capacity.

II. That the payment of a higher price for a business than the actual investment of capital in it is a public wrong, tending to force up prices of the necessaries of life in order that dividends may be earned on an inflated capitalization.

The transfer of the Boston Rubber Shoe Co. involves considerations bearing upon both of these points. While productive capacity is essential in a manufacturing business, it is not more so than business. The assets of the United States Rubber Co. originally included the factory, then already long idle, of the Pará Rubber Shoe Co. Viewed from the standpoint of productive capacity alone this ought to have been very valuable, the plant being large, modern, and fully equipped. To the minds of the Lexows, if an increased business was desired, it was necessary only to start the Pará factory, make rubber shoes, and sell them at a profit. But the directors of the United States Rubber Co. happened to hold a contrary view. Their idea of the way to extend their production and sales was to leave the unsuccessful Pará plant idle and to acquire the best going business to be had—an organized force of employés turning out goods of an established grade and in high demand, under such management as to yield a profit. They bought first the big Woonsocket plants and now they have secured the Boston company in pursuance of this policy, the simple acquirement of a going concern adding to their production, sales, and profits. Better one such acquisition, with an established business, than the "capacity" of a hundred idle plants such as that of the old Pará company.

That a business may have a value apart from the tangible property involved is strikingly illustrated in the case of the big Boston concern that has just changed hands. Here appears the result of long doing business with such intelligent purpose and on such sound principles that a customer once gained is likely to remain a customer, in spite of all competing manufacturers—with a product equal to any other, prices as reasonable as any, and methods widely known to be such as to make relations with them desirable. It is not until some such standing is gained that any manufacturing concern can be said to be successfully established. Whoever buys such a going concern avails himself of reputation, patrons, and profits, to

acquire which, as the outgrowth of a new beginning, would take years of effort, with the risk of failure added.

These considerations are not presented with any idea that they will appear new to the rubber trade, or that they will make any impression on the Lexows, but to illustrate the lack of practical ideas on the part of some men who are permitted to legislate on matters affecting business. According to the Lexow view, no concern is worth more than the amount of capital with which business was begun, or at least the purchase price should be limited to an honest appraisal of the tangible property. But legislation based upon this theory and carried to its logical conclusion would punish a man for taking money for a well-established reputation in trade, and thus act as a deterrent upon business enterprise. It happens, however, that some laws are still-born—not requiring the test of time to make them a "dead letter"—and of this type are those which the unpracticable legislators above referred to busy themselves in enacting.

There are some persons who, while not endorsing Mr. Lexow wholly, still fear that a monopoly of production in any line would tend to enhance prices above a reasonable level. Perhaps it would. But there is going to be no such monopoly. It doubtless is true that, if all the rubber goods in any class were manufactured under a single management, they could be produced more economically than under any other conditions. But nothing is less probable than that any such combination will ever exist, and so long as there is competition in the trade the prices of goods will not go above the ability of the people to pay. The shoe industry is the branch of the rubber trade in which the greatest tendency toward concentration has been shown, and yet there are more rubber-shoe factories in the country to-day than ever before. Nor is any outside concern making a great impression on the market by selling at lower prices than the consolidated company.

THE RECENT DECLINE IN CRUDE RUBBER doubtless will become more marked if manufacturers will continue to buy sparingly. There is some force in the contention that it is the consumers of rubber who put up prices, since there are no prices at all when nobody is buying. If it could only be determined what are the actual needs of the trade, the problem of a reasonable level for rubber prices would be much nearer solution. No doubt manufacturers at times have been eager buyers, and through bidding against each other have strengthened prices, when the demands of their trade did not render necessary the rate of consumption thus brought about.

NEW TRADE PUBLICATIONS.

HARTFORD SINGLE-TUBE PNEUMATIC CARRIAGE-TIRES. THE Hartford Rubber Works Co., Hartford, Conn. [Crepe paper. 3⅜"×6¼". 11 pp.]

DURING the past year, says this catalogue, more than four times as many pneumatic carriage-tires were used than in any previous season. It is insisted that such tires are fully as practicable and durable for vehicles as for bicycles, and these pages contain hints on the kind of tires to choose, how to mount them, and instructions for making "Quick Seal" repairs. Prices are given, and measurements in cross-section for vehicles of different weights.

RUBBER GOODS FOR MECHANICAL PURPOSES. THE MECHANICAL Rubber Co, Successors to Chicago Rubber Works, Chicago, Ill. [Paper. 5⅜"×8". 76 pp.]

BESIDES a full line of mechanical rubber goods, usually included in the catalogues of the leading concerns, this neatly-gotten-up list includes such specialties as concentrator belts, air-drill hose, valve-balls, sheave- or pulley-fittings, plumbers' supplies, etc., in great variety. The company's products also include the "Tiger" tires. The catalogue includes a telegraphic code and a convenient index.

RUBBER GOODS. F. C. HOWLETT & CO., BUFFALO, N. Y. [THICK paper. 4⅛"×7⅛". 46 pp.]

THIS catalogue relates principally to mackintoshes and rubber and oil clothing, illustrating the latest styles and giving directions for ordering by mail.

CATALOGUES RECEIVED.

HENRY MEIER, No. 127 Fourth avenue, New York.=The Model Nurser [for infants]. 6 pp.

The Safety Insulated Wire and Cable Co., New York=Safety Insulation [a catalogue]. 40 pp.

The Manhattan Rubber Manufacturing Co., New York=Special Catalague of Piston and Valve-Rod Packing for Steam-Engines and Pumps; also, Steam-Packing. 32 pp.

The National Tire Co., Chicago.=The National Single-Tube Tire (two circulars). 12 pp. 8 pp.

Goodyear Rubber Co., New York.=Price-List of Boots and Shoes, 1898-99. 6 pp. (folder).

John Royle & Sons, Paterson, N. J.=Catalogue of Tubing-Machines and Insulating-Machines. 48 pp.

Isidor Frankenburg—Greengate Rubber and Cable Works, Salford, Manchester (England).=Price-List of Electric Cables and Wires, January, 1898. 8 pp.

Boston Belting Co., Boston.=Suggestions for the Transmission of Power by Rubber Belting. 14 pp.

The Seamless Rubber Co., New Haven, Conn.="Long Distance" Bicycle-Tires. 4 pp.

Lycoming Rubber Co., Williamsport, Pa.=Catalogue and Price List, 1898-99. Rubber Boots and Shoes. 52 pp. *Also:* Price-List. 16 pp.

Meyer Rubber Co. [New Brunswick, N. J.].=Price-List, 1898-99. Rubber Boots and Shoes. 8 pp.

United States Rubber Co.=[Price-List of] "Bristol" Brand of Rubbers, 1898-99. 4 pp.

The Joseph Banigan Rubber Co., Providence, R. I.=Catalogue of Rubber Boots and Shoes. 63 pp. *Also:* Gross Price-List, Season of 1898-99. 14 pp.

The Canadian Rubber Co. of Montreal=Special Illustrated Catalogue, Season 1898-99. 66 pp. *Also:* Illustrated Catalogue and Price-List of Rubber Boots and Shoes. 64 pp.

Emil Passburg, Berlin.=Patent Vacuum Drying Chamber. Leaflets.

J. Mandelberg & Co., Limited, New York and Manchester, England. =The J. M. & Co. Raincoat. 4 pp.

International Rubber Tire Co., Boston.=Anti-Puncture Tire. 8 pp.

L. Candee & Co., New Haven, Conn.=Catalogue and Price-List, Rubber Boots and Shoes. 63 pp. *Also:* Price-List. 16 pp.

Woonsocket Rubber Co., Woonsocket, R. I.=Catalogue, Rubber Boots and Shoes, 1898-99. 63 pp. *Also:* Price-List. 16 pp.

American Rubber Co., Boston.—Catalogue, Rubber Boots and Shoes. 64 pp. *Also:* Price-List. 16 pp.

Goodyear's Metallic Rubber Shoe Co., Naugatuck, Conn.=Catalogue of Wales-Goodyear Rubber Boots and Shoes. 48 pp.

Jersey Co. [United States Rubber Co.], New Brunswick, N. J.= Catalogue of Rubber Boots and Shoes. 16 pp. *Also:* Price-List, 1898-99. 8 pp.

PEGAMOID AND CELLULOID.

PEGAMOID goods are cotton cloth treated with cellulose; in other words, the essential elements of celluloid and of pegamoid are alike.

To go back a little, cellulose is simply pure vegetable fiber, of which cotton and white blotting-paper are good examples. Since 1833, when Henri Braconnot's experiments, in France, revealed so much in regard to the properties of cellulose, there have been many investigators in the field. Cellulose, when treated with a dehydrating agent, takes a gelatinous form. In an ammoniacal solution of copper oxide the fiber gelatinizes and disappears finally in complete solution. If clean white paper be dipped into this solution and then allowed to dry, there will appear a green varnish-like compound of cellulose and copper-oxide, coating the surface of the fibers and cementing them together, and paper so prepared is found to have water-resisting qualities. Cellulose under the action of concentrated alkalies swells and becomes transparent. Dilute sulphuric acid, acting upon a mass of cellulose for only a few seconds, and its action being then promptly arrested, is found to produce a kind of starchy modification of cellulose which forms the basis of modern parchment paper.

Christian Schönbein, a German, discovered about 1845 that when cellulose is acted upon by a strong nitric acid, or a mixture of nitric or sulphuric acids, producing a nitrification of the cellulose, the resulting substance has powerful explosive qualities. One of its compounds is tri-nitro-cellulose, or gun-cotton. This, by the way, is soluble in certain of the alcohols and in a mixture of alcohol and ether. The solution so formed is in common use as a varnish under the name of collodion, and substances coated with it become almost wholly impervious to water. The same solution, under other names, is used to give many different substances a smooth fine finish, impervious to water, tough and elastic, and therefore of fine wearing quality.

Finally, an American inventor, John W. Hyatt, discovered that when gun-cotton was mixed and compressed with camphor, the result was a hard, elastic, transparent material, susceptible of taking a splendid polish. To this he gave the name celluloid, taking out patents for the process in 1869. So much by way of indicating the properties of the material with which the pegamoid people have to deal. "Pegamoid," says a French writer,* "is this product perfected, rendered only slightly, or not at all, inflammable, prevented from changing form under the influence of heat, and given sufficient suppleness and elasticity to keep it from scaling, even when spread out in exceedingly thin layers."

The principal pegamoid patent is English (No. 19,710 of 1891), granted to Frederick George Annison, a lithographic printer. The story is that this man was doing a small business in the production of advertisement posters, in which he was for awhile greatly discouraged, on account of the effect of the weather upon placards which had cost him great labor and expense. So he set to work to invent some way of rendering them waterproof. There were great difficulties to be overcome. There have not been wanting lakes and varnishes for rendering printed work impermeable, but outside of the fact that this impermeability is of a very doubtful nature, none of these lakes is completely odorless. White and delicate colors, when they are covered over with one of these lakes, are considerably dulled, and, moreover, fade rapidly in the sun. But the lithographer knew all that before he commenced to study his problem, and he eventually solved it in so complete a fashion that large capitalists were ready to buy his patent and his secrets, after which they founded a stock-company to exploit them, under the name of Pegamoid.

Annison's patent, according to the official record, is for "improvements in the treatment of paper, linen, and other textile fabrics applicable to the manufacture of show-bills, show-cards, posters, tablets, wall-decorations, and other purposes."

"I take strong linen or other suitable material . . . and coat it over one or more times, on one or both sides . . . with an opaque or white solution of xylonite, known also as celluloid or ivoryine; or, if the material is required to be used for transparencies, I employ a transparent solution of xylonite, and when dry I press it through hot rollers in order to make the surface very smooth. When desired, I print direct the required design on the material, in the usual way as practised for printing on paper, and when the printed matter is quite dry I again press it through hot rollers, so as to hot-press or glaze it, and this is also necessary, whether printed on or not. I finally coat it with a transparent preparation of xylonite, and then place it in a hot chamber to thoroughly harden it.

"Should an opaque film form on the surface, I apply a dressing of any suitable grease or oil (preferably sweet or olive-oil), and after removing the superfluous grease or oil, I apply a very thin coating composed of a mixture of turpentine and copal or other suitable varnish, also to prevent the film from reforming, as this (the film) must be permanently removed, or it would obliterate the matter printed on the surface. The xylonite used as above, being opaque white, must be applied before printing, or it would entirely obliterate the design.

"In order to produce an embossed material applicable for posters or other purposes, I add several sheets of white xylonite solution on one or both sides . . . of the material, so as to form it into a thick substance. I then print the design thereon and apply the transparent xylonite. . . . I then place the thick printed substance in water heated to about 100° F., which softens the material. It may then be embossed with a suitable die, and when cool is ready for use."

The complete specification for the patent includes a description of the machinery necessary to be used, for the reason that "on account of the xylonite solution being of such a quick drying nature, large surfaces cannot be impregnated therewith with a sponge or brush, as the surface would not be sufficiently even." The inventor does not, however, confine himself to the use of this particular machinery, since other machinery might be designed to answer the purpose.

A further reason for the use of machinery for pegamoiding goods has been suggested to the writer, as follows: "Fabrics coated with the class of materials here treated of become less pliable, because the fine interstices of the surface of the fabric are closed, and if it is desired to bend the fabric, there are, on one side, no small crevices into which the particles of solid matter may be pushed, while on the opposite surface of the fabric the continuity of the coating prevents the stretching necessary to the convexity of a surface so bent, and a sheet of any considerable thickness resists with tenacity attempts at folding or bending it. When, in any of the applications of nitro-cellulose upon paper or cloth, the surface is left smooth

* J. Lefevre, in the *Revue Generale des Matieres Colorantes.*

and even, the resulting material is stiff for reasons above set forth, but if in the process of manufacture, before the coating material has become dry and hard, numerous indentations are impressed upon the surface, the resulting sheet may be made, by virtue of these numerous indentations, as pliable as may be desired. The indentations may be in the form of numerous parallel straight lines, with others crossing them at right angles, or in the form of regular curves of any kind, or they may be made to represent the indentations common to the animal skin, which derives much of its pliability from the same cause, or they may be in any form whatsoever. The object of the indentations, aside from the beauty of the figures which they may form, is to give pliability to the sheet under treatment."

The English corporation known as Pegamoid, Limited, with £300,000 capital, was floated in the summer of 1896—the subscription being opened to the public on June 29—to acquire Annison's and other patents, and to take over the business of the Pegamoid Papers Syndicate, Limited; the Pegamoid Wall Hangings Syndicate, Limited; the Pegamoid Leathers Syndicate, Limited; and the Publishing, Advertising, and Trading Syndicate, Limited, including contracts made by all these parties with manufacturers. One such contract, dated May 15, 1895, gave to David Moseley & Sons, rubber-manufacturers at Manchester, an exclusive license for treating cotton and linen cloths, they to provide machinery and working capital, and pay over two-thirds of all profits accruing under the contract. Annison, by the way, appears as a party to only one contract. That he signed on February 20, 1892, with Frederick Weaver Oliver, who was thereafter "party of the first part" in most of the contracts made, until all the syndicates sold out, at the advertised price of £250,000.

Oliver, by the way, has contributed largely to the development of the Pegamoid process by means of inventions patented by him in England. He also was a lithographer, residing in London. His first patent (No. 11,666 of 1894) was for "improvements in waterproofing cartridges"—which have led to the most important use of Pegamoid thus far. Oliver's specification reads:

"I take paper which has been prepared with liquid celluloid under Annison's patent (No. 19,710 of 1891) and form cartridge-cases of it in the usual way, with paste between the layers of paper, or by rolling up the paper while still wet with the liquid celluloid, which serves as a cement material in place of paste. The cases are dried and finished in the usual manner or in hot chambers. I also prepare the ordinary cases as usually made by dipping them in liquid celluloid either inside or outside or both."

Oliver's next patent (No. 17,747 of 1894) was for a Pegamoid paint—"the use of a solution of liquid celluloid in place of the oils, turpentine, and other such vehicles used in common paint." Glycerine may be added to retard drying, and pigments applied for decorative purposes. Patent No. 10,103 of 1896 covers the manufacture of handles for knives and forks, brushes, bicycles, etc., by applying a coating of celluloid and zinc white to a core of wood or other material. Patent No. 10,104 is for "improvements in the manufacture of material suitable for belting, carding-cloths, soles of boots, and the like," involving the treatment of cotton duck, jute cloth, or other woven fabric, or leather, with liquid celluloid, and uniting two or more layers of the same. Patent No. 10,105 covers the waterproofing of fabrics by the Pegamoid process, as follows: Elastic and porous fabrics, not suited for waterproofing by ordinary methods, are treated "by first coating over the surface of a suitable transfer-paper with a celluloid solution and so forming a thin film of celluloid over the transfer-paper. Afterwards I apply solvent to the surface of the film and apply it to the surface of the fabric to be rendered waterproof—so uniting the two together—and when this has been done I wash away the transfer-paper." Two applications for patents made by Oliver more recently relate to "waterproofing thread and apparatus therefor," and "improvements in pneumatic tires."

The original invention of Annison was patented also in America—No. 50,447, covering a "method of printing showbills or similar articles." According to the claim, "the improvement consists in impregnating textile materials, such as linen, cotton, and the like with xylonite, drying the same, then passing it between rolls, then passing the same through a printing press, and finally coating the printed article with the transparent varnish." It will be noted that, whereas the various English patents noted above make mention of "celluloid," the American patent granted to Annison does not, the reason doubtless being that the right to the use of this term in this country is restricted to the owners of the celluloid patents.

Other Pegamoid companies than that named above have been formed since in France, America, and elsewhere. There is a firm styled the French Pegamoid Syndicate, Limited, in Paris, affiliated with which is a German concern, located in Friedrichstrasse, Berlin. Under the name of the Pégamoid Hollando-Belge a limited-liability company was constituted on January 26 last, with headquarters in Brussels. It takes over the business of and the patent rights controlled by The Belgian Pégamoid Syndicate, Limited, and The Publishing, Advertising, and Trading Syndicate, Limited. The incorporation of the American Pegamoid Co. was chronicled in detail in THE INDIA RUBBER WORLD of January 10 last.

Pegamoid is prepared elsewhere than in the factories where it is used. There were central works for this purpose at one time in the environs of Paris, but they have been removed to Petti Quevilly, near Rouen, in the proximity of large chemical works and spirit-distilleries. The supply of sulphuric acids and alcohol, which are needed in large quantities in the preparation of pegamoid, are thus at hand. Moreover, the port of Rouen allows cotton and camphor to enter duty free, and these are the principal raw materials for the new product.

It is asked if pegamoid is really a novelty. The reader may judge for himself how far the patent of Annison bears the marks of novelty. It is asserted that an English house, a good many years ago, made an article very similar to the pegamoid of to-day. They used the residues of distillation of German spirits, and the manufacture of the article ceased because, the distilling apparatus becoming perfected, no more residues were obtainable, and pure alcohol was considered too expensive. It is possible that pegamoid is simply an improvement on this article, but at least it is better put upon the market, and has been made applicable to a large number of uses. As already mentioned, the essential elements of pegamoid enter into other preparations in wide use. But in addition, certain mixtures are incorporated, to improve the impermeability of the product, or to give it suppleness, or to destroy its inflammability. The nature of these mixtures, and the proportion in which they enter into the composition of pegamoid, constitute whatever secret may exist with regard to its production.

"I do not know what process may be claimed by the promoters of pegamoid," said a gentleman in New York to the writer, "but one who desired to prepare material of this general character would begin by taking fine white cotton, or white filter-paper, or some such material, which he would treat with a mixture of sulphuric or nitric acid to form nitro cellulose or gun-cotton, and then dissolve in a suitable alcohol, or he might subject it to a process somewhat similar to the well-known

method of producing celluloid. He would next apply the resulting substance to a sheet of prepared strong cotton cloth, drawn continuously under brushes and rolls to coat it evenly with this solution, then over rolls to heat and dry the solution on the cloth, then between rolls to produce suitable indentations in the nearly firm and dry coating, then over other rolls to finish the drying process, and the product would be found to have properties similar to those of pegamoid, pantasote, and numerous other modifications of the same article."

While the Pegamoid Company have been showing an interested public what its material can do, the Celluloid Company have come out with a new substance that seems to have a great many of the advantages claimed for Pegamoid.

The officials of the latter company have been working on the new material for some time, although with the greatest secrecy. A room in the collar and cuff department was cleaned out and the necessary machinery set up. The workmen, and even the subordinate officials about the factory, were kept in the dark as to what was going on until very recently. It has been stated that the new material is Pegamoid, and that the Celluloid Company had entered into an arrangement with the Pegamoid Company to manufacture its material for the United States market. These statements are wholly wrong. The celluloid material is something the company has developed itself, and on its own responsibility. The idea has gotten abroad that the Pegamoid Company has a monopoly on the manufacture of such a product, and an official of the Celluloid Company is reported to have stated that the concern would not have given anything to the public just now had it not been that it did not wish its stockholders and others to continue in the impression that Pegamoid, Tannette, or any of the other new waterproof company had the exclusive right to make such materials.

The celluloid material is a chemical deposit of a fluid, with a pyroxaline base, containing camphor and some of the other of the ingredients of celluloid. The manufacture of the new substance is quite simple. The experimental apparatus with which the substance was brought to its present state of almost perfection, cost but a very small sum. Fifteen or sixteen years ago the officials of the company first experimented with the view to inventing some such material, but it has done nothing decisive all these years for several reasons. One of its principal reasons for leaving this line of research undeveloped, was that it gave out to certain parties licenses to use celluloid in such a way that the parent company, then the Celluloid Manufacturing Company, could not very well proceed to manufacture waterproofing. These licenses expired quite recently, and in anticipation of their expiration the company has been busily engaged in preparing its new substance.

The new material can be deposited upon almost any fabric and it imparts to it a greater strength without adding materially to its weight. But what is even more important it is absolutely waterproof. It has been tested in numberless ways, and has come out from every test with its reputation untarnished. It is in a way stainless; that is, almost anything can be removed from its surface with a few applications of a sponge. A piece of the new material was recently caught up at the four corners and thus converted into a sort of bag. The bag was then filled with copying ink and hung up and left for twenty-four hours. When taken down there was no sign of leakage and in a short time nearly every trace of the ink had been removed from the material. Another valuable quality is that it will not crack or crease. It can be manufactured for from 25 to 30 per cent. cheaper than skiver leather, and as it is to be sold by the yard it is cheaper in another way, since there is no waste, while in leather a part of the hide has to be cut out, not being of uniform sizes and shapes. The company has experimented satisfactorily with tent duck with a view to making it waterproof. It has been used for uppers to tennis shoes and has been subjected to many ingenious trade tests. It has been tried as a book covering and is peculiarly valuable as a protection for volumes that are used in the neighborhood of ink, oils, and other discolorants.

The material is said to present exceptional facilities for mail bags, because of its extreme lightness and its durability. For sportsmen's coats it will doubtless prove an excellent substitute for the materials now used. It is now being converted into dress cases, hand satchels and innumerable other articles. One of its chief values, so far as can be learned at present, seems to be the readiness with which it can be deposited on cloth materials of all sorts.

It is said that the company can turn out its new material at as low a figure as any other concern can manufacture similar material. There was nothing remarkable in this, since the Celluloid Company has been engaged in the use of most all of the ingredients necessary to compose such material for many years. The officials say they do not believe anyone can surpass them in the handling of these ingredients for utilitarian purposes.

THE LATEST USE FOR PEGAMOID.

IN an address on the "pegamoid" process, Prof. Peter T. Austen, the American company's chemist, said: "We have also been very successful in experiments in 'pegamoiding' greenbacks, thus giving banknotes a washable surface This opens up a big and singularly novel field. The banks would save a great deal of money if they could clean up their notes at the end of the day's business by washing them with soap and water in a specially-constructed washing-machine, working at high speed, then drying them by a wringer and hot calender, and bringing them out clean, bright, smooth, without wrinkles, and free from germs of disease and pocket filth. In time, when they begin to show wear, they could be 'pegamoided' on a piece coater, and thus gain a new lease of life. I have kept 'pegamoided' greenbacks for several days under water without perceptible change, while untreated ones went to pieces in a few hours."

BEGINNINGS IN RUBBER STAMPS.

WITH regard to the beginnings of the rubber-stamp trade, George W. Coudrey, an engraver and stenciler, on South Water street, Chicago, tells the *Commercial Stamp Trade Journal* that he sold the first rubber stamp ever made. "The stamp was made by H. F. Tubesing, who formerly published a German newspaper in Buffalo. He took out his patent and made his first stamp at Cincinnati in 1862. It was a three-line composition stamp, made with a rubber face and a sort of glue backing and was sold by Mr. Coudrey for $1.50, who further says that there were some supposed infringements on the patent. But these were some of them improvements rather than infringements. In 1868 J. F. Tenny, now doing business in the stamp line at No. 70 Madison street, Chicago, made the first hand stamp in the city and the west, and later patented a self-inker which had a great sale at first at $36.00 a dozen. This gave a great impetus to the business. Mr. Tenny was also the inventor of the chemical ink now so extensively used in typewriting for copying purposes. Taylor S. Buck, of Davenport, Iowa, was the second man to begin the business in the west." The latter, by the way, is now in the rubber-stamp business on a large scale in New York.

THE CANTOR LECTURES ON INDIA-RUBBER.

"SOURCES of Commercial India-Rubber" formed the subject of two lectures delivered recently by Dr. Daniel Morris, M. A., C. M. G., before the Society of Arts of London, in the Cantor series. The lecturer is a botanist of reputation, who has had opportunities of studying the rubber-yielding species, not only in the botanical gardens but also in native forests. Thus he came in contact with the *Castilloa elastica* while preparing a report on the resources of British Honduras, in 1882, and he has had considerable experience in Ceylon. A full report of Dr. Morris's lectures, as given in the *Journal* of the society before which they were delivered, together with the accompanying illustrations, would fill an entire number of THE INDIA RUBBER WORLD, and hence cannot be reproduced here. Besides, the facts comprised in these lectures are not, for the most part, new to those who have been careful readers of this paper for nine years past.

A good service has been rendered by Dr. Morris, however, in bringing together in a convenient form a summary of all that is really known in regard to the species yielding the rubber exported from the various countries, and also to the conditions favorable to their growth, either in the forest or under cultivation. No other attempt in this direction has proved nearly so complete. Collins's "Caoutchouc of Commerce" is now a quarter of a century old, and of course does not include several important rubber plants which have become known only of late. Dr. Henriques's "Kautschuk und seine Quellen" is more recent, but less comprehensive than Dr. Morris's lectures. Up to date, therefore, whoever has desired a catalogue of rubber species, with something in the way of description, has been obliged to consult a variety of authorities. Not even Schuman, in Engler's work on the botany of East Africa, enumerates all the *Landolphia* species, while Watt, in his "Dictionary of Economic Products," naturally gives prominence to the rubber plants of India.

RUBBER MILK AND ITS TREATMENT.

The lecturer indulges in some interesting remarks on the nature of the *latex*, or rubber milk, which he considers to be "quite distinct from the sap. It is, in fact, a secretion, and apparently not essential to the life of the plant. It is conceivable, therefore, if this juice were removed in moderate and regular quantities, without seriously wounding the tissues, that the plant would not materially suffer. It is necessary, however, to make some incisions to obtain a flow of milk. What is required is a process whereby the largest quantity of milk is obtained with the minimum amount of actual injury to the plant." The *latex* is found only in the inner layers of bark, and never in the wood. "Besides the globules of caoutchouc, the *latex* contains certain salts and albumen. When the fresh juice is exposed to the air in thin films, it speedily dries and hardens into elastic layers of brownish-yellow caoutchouc. It is evident that the caoutchouc is not dissolved in the juice, for when the *latex* is diluted with water it rises to the surface like cream, and when once it has become coherent it cannot again be diffused." The *latex* from different trees contains a variable amount of resinous matters, of which the smallest percentage is to be found in the best sorts of rubber.

The method of coagulating rubber in each country, as practiced by the natives, is probably the one best adapted to local conditions, including the smoking of the *Hevea* rubbers over fires of palm-nuts and the use in Central America of the juices of astringent plants. The smoking process would appear to be applicable only in the case of *latex* possessing alkaline properties, which is not true of the *Castilloa* rubbers. But as opportunities offer for intelligent supervision of rubber-gathering, the processes should be based upon scientific principles. The lecturer is favorably impressed with a centrifugal process of coagulating rubber, on a principle almost identical with that of the cream-separator. In this water is added to the *latex* and the whole placed in a machine and spun rapidly for a few minutes. The machine is allowed to come to a rest gradually, when the rubber is found floating on the top of the liquid in a thick white mass, while all the foreign matters lie at the bottom. The rubber is skimmed off and placed upon a porous surface to drain. This method is credited to Esme Howard and R. H. Biffen, B. A.,—the latter of whom is demonstrator in botany at the University of Cambridge—who visited the Brazilian rubber country last year. It has met the commendation of Superintendent Hart, of the Trinidad botanic garden.

AMERICA'S WEALTH OF RUBBER.

In support of a belief in the practical inexhaustibility of the Amazon rubber forests, Dr. Morris quotes from the official reports of J. Orton Kerbey, formerly United States consul at Pará, and W. H. Churchill, now filling the English consulate there, both of which have appeared in THE INDIA RUBBER WORLD. The *Castilloa* rubber-trees are found over a wide area, but their number has been reduced in recent years by excessive bleeding. By the way, the lecturer ascribes the Peruvian gum marketed as "caucho" to a speces of *Castilloa*, and also the Nicaraguan "tuno." He regards as important the Ceará or maniçoba rubber, which not only is prevalent in eastern Brazil, but has been introduced with success into most other countries within the rubber-yielding zone. In the Kew museums are specimens of Ceará rubber grown in India, Ceylon, Natal, and Zanzibar. This species (*Manihot Glaziovii*) thrives equally on low lands and at elevations of 3000 feet, on barren soils, in desert plains where the rainfall is under 50 inches, and in a temperature falling below 60° F. at night. Hence, concludes Dr. Morris, "it is quite possible that we may yet see successful plantations of Ceará rubber-trees established in districts that have been regarded as unsuitable, and under conditions that may afford a sufficient yield of rubber to render the enterprise remunerative." The mangabeira rubber, of Brazil, also extends over a wide area, and promises to be of importance commercially, in addition to which several other species found on this continent yield rubber of a workable quality.

A DECLINING YIELD IN INDIA.

The rubber-trees of India, the most important of which is the *Ficus elastica*, confined to a comparatively limited area, have suffered from the depredations of reckless native gatherers. The efforts of the government to conserve the trees have not been wholly successful. "No system of inspection could render protection effective over a block of forest of 200 square miles, with perhaps only ten or twenty trees to the square mile. The illicit tapper works in the rainy season, when the forest guards are withdrawn. Further, the northern boundary of the government abounds in uninhabited and trackless territory, except for elephant paths, and the rubber once collected could be easily carried across the [northern Assam] line, to be reim-

ported as foreign produce." As is well known, Gustav Mann, long conservator of forests for Assam, retired with convictions unfavorable to rubber cultivation as a commercial enterprise, due to extensive experiments made under his control. "*Ficus elastica*," he wrote, "will grow with undiminished rapidity and luxuriance in situations remote from the hills, but in such localities it fails to yield caoutchoue." The other rubber species of Asia appear to have little value. "A peculiar rubber shipped from Pontianak, on the equator in west Borneo, is a soft, white, inert substance, almost devoid of elasticity and evidently now used only to a small extent. The imports in 1895 were 306,880 pounds; in 1896 they had fallen to 40,320; while in 1897 they were only 11,220 pounds.* "Again, the lecturer says: "A tree known as gutta-jelatong [in the Malay peninsula] is probably *Dyera costulata*, with stout branches, hard, shining, leathery leaves and follicles, about a foot long, covered with rusty scales. The milky juice is said to be used to mix with that obtained from the species of *Willughbeia* already mentioned [yielding what is known in the trade as Penang rubber]."†

NEW RUBBER SPECIES IN AFRICA.

The African rubber yield is much more important, being second only to that of the Amazon. "The *Landolphias* are widely distributed over the whole of tropical Africa, and extend from 16° north latitude to 24° south latitude. They are found in practically all the forest regions, and consist of numerous species. At least ten of these are valuable rubber-yielding plants." These are vines, or creepers, but there are also rubber trees in Africa, including the *Kickxia Africana*, which recently has become so important a producer in Lagos. The great number of these latter is indicated by the fact that while as much 6,000,000 pounds of rubber has been exported from Lagos in a single year, each tree is estimated to yield annually, without any injury, only about 1½ pounds of rubber.

The new root rubber of Angola, sometimes described as "potato gum," is described at some length. There are two plants concerned—*Carpodinus lanceolatus* and *Ctitandra Henriquesiana*—both belonging to the same natural order as the *Landolphia*. "They are described as low plants with slender, semi-herbaceous stems one or two feet high, and white aromatic flowers. They are found in great abundance on the sandy expanses in the Kwango district south of Stanley pool, and from this region alone it is said that 500 tons of rubber are produced yearly." In the United States consular reports on India-rubber, in 1891, it was stated, in reference to this then recently-discovered gum, "that a good quality of rubber was produced, and that the plant must be found in immense quantities, as it was to the discovery of it that Benguela owed the enormous increase in its exports as compared with previous years." Although the stems of these plants contain rubber, the larger share is at present obtained from the creeping underground stems. These are about an inch in diameter, and the natives extract the rubber by rasping them in water and then boiling. In this way a large quantity of vegetable *débris* is taken up with the rubber and the quality is thereby impaired. The price as quoted recently in England was 2*s*. 6*d*. per pound. Dr. Morris adds:

"The discovery of these remarkable rubber plants shows how far we still are from knowing the full extent of the sources whence this valuable product may be obtained. It is possible that these new plants may be available for cultivation, and give returns earlier than other rubber plants. They could evidently be easily propagated by means of pieces of the *rhizomes* (underground stems), and although it would be necessary to destroy many of the plants to obtain the rubber, there is a probability that numerous pieces of the *rhizomes* could be left in the ground to carry on the cultivation to another year."

THE RUBBER TREES FOR CULTIVATION.

The rapid destruction of the rubber vines in Africa, and especially on the eastern coast, has long been deplored. Official action has been taken, in the colonies of more than one European power, to check this destruction and prevent the deterioration of the rubber, and with some success. But with regard to south Madagascar, where no restriction exists, the lecturer says: "The natives recklessly cut down all the plants within their reach, even digging up the roots. It is estimated that within a few years, unless steps are taken to prevent it, this valuable rubber district will be completely exhausted."

Little or no rubber comes from the Philippine islands. Certain creepers found there have been reported to yield rubber, but this lacks confirmation. No reference is made in the lectures to the probability that portions of Cuba and Porto Rico, or the Hawaiian islands, might prove suited to the Ceará rubber-tree, though from the description given of this species it would seem worth while to experiment with it on those islands.

In regard to the cultivation of rubber-trees, Dr. Morris confines himself mainly to a record of experiments. He does say, however, that he became convinced, while in British Honduras, that *Castilloa* trees, planted in suitable localities and properly cultivated, would yield an average of £1 per tree at the end of eight or ten years. But this does not agree with a statement further on, that "[*Castilloa*] trees at seven or eight years are expected to yield from one to two pounds of rubber." Later the yield is better. "A large tree of *Castilloa*, say two feet in diameter, is said to yield eight gallons of milk when first cut. Each gallon of milk in the proper season will make about two pounds of rubber. Hence a tree of this size will give a return of sixteen pounds of rubber."

The rubber trees that offer the best inducements for being regularly cultivated in other than their native countries, arranged in the order of their value from a cultural point of view, are named by Dr. Morris as follows:

1. *Hevea Brasiliensis* (Pará rubber).
2. *Castilloa elastica* (Central American rubber).
3. *Kickxia Africana* (Lagos rubber).
4. *Manihot Glaziovii* (Ceará rubber).

Exception must be taken to Dr. Morris's statistics of rubber production. By adding together the total rubber imports of Great Britain, France, Germany, the United States, etc., he derives a total annual production of 60,000 tons. But as each of these countries exports more or less rubber, and England a very large quantity, it is clear that by Dr. Morris's method a considerable quantity of rubber is counted more than once. By deducting from the total of imports by all countries the total of their exports, a figure would be obtained which doubtless would indicate more nearly the world's production.

*This, together with some other kinds of gum, were included by the United States customs in "Gutta-percha," until, at the instance of THE INDIA RUBBER WORLD, a change of classification was made. There has since been a much smaller amount imported as "Gutta-percha"—only 193,823 pounds for the first seven months of 1898, against 1,734,217 pounds for the same period in 1896. The difference is now mainly accounted for in the customs returns of "Gutta-percha (Jelatong)," which arrives in large quantities direct from Singapore. In the detailed statistics of imports of THE INDIA RUBBER WORLD, this gum is entered as "Pontianak." From Dr. Morris's figures it would appear that almost none of this gum is used in Great Britain.—THE EDITOR.

†The *Agricultural Bulletin of the Malay Peninsula* (Singapore), for June, 1897, says: "*Dyera costulata* is a large tree common to our jungles. The rubber is abundant, but usually contains much water. It is considered of a low quality and seems chiefly to be used for adulterating other kinds. There is, however, a fairly large trade in it at Singapore." The habitat of this tree is stated to be the Malay peninsula, and its product is described in the *Bulletin* as "Jelutong."

BRIEF ABSTRACTS OF RECENT RUBBER PATENTS.

AMONG recent patents issued by the United States patent office, embodying applications of India-rubber or Gutta-percha to a greater or lesser extent, have been the following. It is not practicable here to do more than to note the use of rubber sufficiently to enable those who may feel interested to decide whether or not to look into any particular patent more fully:

TIRES.

No. 610,233.—Pneumatic Tire. Nathaniel B. Harmon, New York, N. Y.

In combination with a wheel rim provided with a central projection or rib having undercut sides, of a tire having a groove with similar undercut sides, this groove being arranged along one edge of the tire and adapted to overlap and engage with the projection, and the opposite edge of the tire being provided with a projecting claw which interlocks with a shoulder on the first-named edge of the tire.

No. 610,4 2.—Valve for Pneumatic Tires. William H. Crossley, Bloomsburg, Pa., assignor of one-half to George W. Mifflin, same place.

The combination with a pneumatic tire, of a threaded valve casing secured in a part of the tire exposed beyond the wheel-rim and having its flanged open mouth seated flush with the tire, a valve fitted within the casing, and a threaded solid stopper plug screwed into the valve casing wholly within and independently of the valve therein to lie flush with the exposed flanged mouth of the valve casing, and provided in its exposed face with means for the reception of a suitable tool to adjust the stopper-plug.

No. 610,606.—Pneumatic Vehicle Tire. Philip Knorpp, Jr., Chicago, Ill.

The combination with the rim having its inner face recessed, a flat valve chamber embedded in the recess flush with the inner face of the rim and having the valved filling-tube projecting through the outer side of the rim, an outer casing surrounding the rim, nipples projecting downwardly through the casing from the bottom of the chamber at each corner thereof and having their ends curved in the direction of the rim; a nipple projecting downwardly through the casing from the bottom of the chamber at a point to the rear of and between the first named nipples and being longer than the nipples, and having its end also turned in the direction of the curve of the nipples, and three valve stems projecting through the rim and being threaded in the chambers and adapted to close the nipples respectively, and an independent inner tube secured to each of the nipples.

No. 610,633.—Tire for Vehicle-Wheels. James Morely, Bournemouth, England.

An improved tire for the wheels of bicycle tires and other vehicles, comprising an elastic or semi-elastic tube or cover and an interior rim or band which bears on the inner surface of the outer portion of the rim or cover, and is adapted to expand the same, this rim or band being segmental in cross-section and the convex surface thereof being directed outwardly and being provided centrally and longitudinally with an inwardly-directed groove, and the rim or band being provided at the inner surface thereof with a plurality of tangentially arranged brace rods which are connected therewith at each end and which are supported centrally by the rim of the wheel with which the tire is connected.

No. 611,052.—Wheel-Tire. Francis Brucker, Shelby, Ohio.

In combination, the wheel-rim, the shoes seated therein, the pneumatic tube seated on the shoes, the outer shoes seated on the periphery of the tire, the link connections between adjoining inner and outer shoes, the outer metal tire and the spring connection between the tire and outer shoes.

No. 611,272.—Tire. Matthew Prior, Watertown, Mass. and Thomas W. Prior, Philadelphia, Pa., assignors to Prior Cotton Gin Co., Philadelphia, Pa.

The combination with a suitable backing, of a fabric secured thereto and composed of rubber and horsehairs vulcanized together, the horsehairs being in short sections extended transversely of the fabric with their ends constituting the exposed surface.

No. 611,296.—Pneumatic Tire.—George Turner and James M. H. Venour, London, England.

A tubeless pneumatic tire having a tube at one edge with openings, the other edge of the tire having a flap to fit over the opening in the interior of the tire to act as a valve.

No. 611,373.—Vehicle-Tire. Robert Cohen, Cambridge, Mass., assignor to the Boston Woven Hose & Rubber Co., Boston, Mass.

A vehicle tire comprising a body portion having embedded in it a plurality of connected links, the links comprising one or more anchors to hold into the material portion of the tire, and carriers at their sides in the forms of rolls or tubular edges and wires run through the carriers throughout the length of the tire, certain of the carriers being perforated, and the ends of the wires terminating in the carriers being bent or hooked over the edges of the perforations.

No 611,4 5.—Wheel-Tire. William W. Ogden, Chatham, T. J.

In the manufacture of vehicle wheels, the combination of a pair of continuous circumferential single or multistranded wires passing through a solid rubber tire, the channel-formed rim having a convex bottom, the rubber tire having a concave surface fitting the convex rim bottom, crosswise right and left directed eyebolts with nuts attached alternating with each other securing the tire and rim to the felly.

No. 611,510.—Pneumatic Tire. Joseph Robinson, Ipswich, England, assignor to Eugene Wells and Percy Crossman, same place.

The new article for employment with a pneumatic tire consisting of a plurality of strips of fabric impregnated with celluloid and enclosed in the folds of another strip of fabric.

No. 611,553.—Pneumatic Tire for Vehicles. Henry Bancroft, Church, England.

In pneumatic tires, the combination with an inner air-tube and an enclosing tube, of an interposed strip of leather, segment-shaped in cross section, encircling the air-tube along its tread portion and having its concave side secured to the air-tube, the strip having its outer convex side provided throughout its length with transverse sloping, or inclined slits or incisions, whereby to afford the proper resiliency, and whereby in practice, these slits will close in the direction of movement of the wheel and present a solid non-puncturable surface.

No. 611,584.—Pneumatic-Tire. John T Trench, Kenmare, Ireland, assignor to the Trench Tubeless Tyre Company, Limited, London, England.

The combination with a wheel rim provided with flanges at its side edges, of a single tube pneumatic tire divided on its under side and provided with tread portions for bearing on the wheel-rim, a heel at one end of each tread portion for bearing against one of the rim flanges, and a wedge shaped inwardly and upwardly projecting lip at the other end of each tread portion, said lips operating to seal the joint and lock the tire in the rim before inflation.

No. 611,594.—Pneumatic Tire. Eleazer Kempshall, Newton, Mass.

A pneumatic tire comprising an air-tube, a sponge rub-

ber cushion, a suitable covering for the tube and cushion, and a strip of non-extensible air-proof material interposed between the cushion and air-tube and adapted to prevent the compression of the cells of the cushion by the pressure of the air in the tube.

MECHANICAL GOODS.

No. 610,462.—Tubular Woven Fabric. Benjamin L. Stowe, Jersey City, N. J.

A tubular woven fire or hydraulic hose fabric, having incorporated in its structure leveling weft strands laid on the interior surface of the tubular fabric in the furrows or corrugations between the usual filling-strands of the fabric and warp strands by which additional levelling-strands are held.

No. 610,463.—Tubular Woven Fabric. Benjamin L. Stowe, Jersey City, N. J.

Tubular woven fabric for fire or hydraulic hose, having incorporated in its structure, levelling weft-strands laid on the interior surface of the tubular fabric in the furrows between the usual filling strands of the fabric, and warp-strands for holding the leveling strands which stop short of, and do not extend through to, the exterior of the fabric.

No 611,433.—Piston-Packing. John W. Kennedy, Willingham, Ga., assignor of one-half to M. A. Sexton, same place.

A packing for the purpose set forth, consisting of strings provided with a serving of separated rubber flakes, and saturated in a solution of graphite and lubricating oil.

DRUGGISTS' SUNDRIES.

No. 611,207.—Hot Water Bottle or Ice Compress. John F. Morrill, Boston, Mass.

Rubber liquid-containing receptacle provided with the filler-nipple, in combination with the expansible casing entirely enclosing said receptacle, and leaving an air-space between; and the air-valve for inflating said casing.

COMPOUNDS.

No. 610,626.—Composition Containing Casein for Electric Insulating or Other Purposes. Peter H. Hansen, Copenhagen, Denmark.

A composition consisting mainly of casein, India-rubber and asphalt.

MISCELLANEOUS.

No. 610,324.—Elastic-Tread Horseshoe. Felix Galley, Cleveland, Ohio, assignor of one-half to Preston Vaughn, Nashville, Tenn.

An electric-tread horse comprising a skeleton metallic frame provided on its outer edge with the recessed flanges, a divided elastic cushion fitted in the skeleton shoe, means for fastening the side sections of the cushion to the shoe, a metallic wear plate fitted in the recessed flanges of the shoe to be held thereby against endwise displacement, and fastening devices which attach the toe section of the cushion to the shoe and loosely confine the wear plate against edgewise displacement.

No. 610,461.—Circular Knitting Machine. Elizabeth S. Stetson, West Hanover, Mass., executrix of Charles T. Stetson, deceased, assignor to James Bennett Forsyth, Boston, Mass.

In a circular knitting machine for the production of tubular fabrics, the combination with a suitable supporting frame, of a series of stationary warp-thread bobbins mounted on the frame, a second series of stationary warp-thread bobbins carried by the frame in close proximity to the first mentioned warp-thread bobbins, knitting mechanism, comprising a cam-cylinder and knitting needles, means for rotating the cylinder, horizontal arms carried by the cylinder, weft-thread bobbins carried by the arms, weft-thread tension devices on the arms, so that the bobbins rotate in a plane above the knitting point, a vertical shaft depending from the top of the supporting frame, means for rotating the shaft, horizontal arms secured to the shaft, knitting-thread bobbins carried by the arms, two arms carried by the main frame and projecting inwardly between the planes of rotation of the weft and knitting thread bobbins, vertical studs adjustably mounted in the inner ends of the inwardly projecting arms, two guide rings carried at the upper ends of the adjustable studs, sleeves sliding on the lower ends of the studs, a guide ring carried by the sleeves and nuts to hold the sleeves and ring in adjusted position.

No. 610,567.—Manufacture of Pulpware. Henry Thame, London, England, assignor to Francis Swanzy and William Cleaver, same place.

An article of pulpware consisting of the separate pulpware parts and the joints between the parts of the rubber strip vulcanized in place, and a hard-rubber joint.

No. 611,377.—Pneumatic Bicycle Saddle. Benjamin W. Davis, Phillips, Wis.

In a pneumatic seat for bicycles, the combination with a hollow cushion divided into communicating compartment and capable of being inflated, of a seat frame supporting the cushion, an expansible air receptable beneath the cushion and also divided into communicating compartments, air passages connecting the cushion and air-receptacle, a perforated valve so arranged at one end of each of the air-passages as to allow free passage of air from the cushion to the air receptacle, but to restrict the passage of the air in the reverse direction, and an inflating valve attached to the cushion.

No. 611,585.—Pneumatic Mattress John B. Andres, Denver, Colo.

In a pneumatic mattress, the combination with the fabric comprising the top and bottom of the mattress, of a piece of fabric located between the top and bottom parts, its edges being free from the outer mattress fabric, and suitable fastening devices passed through the top, bottom and intermediate parts, whereby the parts are securely fastened together.

TRADE MARKS.

No. 31,929.—Rubber Goods and Articles Made Therefrom and Waterproof Oiled Fabrics and Articles Made Therefrom. Goodyear Rubber Company.

The word "Indian," together with the representation of the head of an Indian. Used since November, 1897.

No. 31,930.—Hose, Belting, Packing, Valves, Gaskets and Springs. Revere Rubber Company, Boston, Mass.

The words "Black Hawk," with or without the picture of the Indian Chieftain. Used since March 1, 1898.

No 31,958.—Dress-Shields. Kora Company, New York, N. Y.

The word "Kora." Used since May 1, 1898.

DESIGN PATENTS.

No. 29,268.—Tire-Repairing Plug. Arrah J. Whisler, Kokomo, Ind.

The design for a tire-repairing plug.

No. 29,409.—Syringe-Bulb. Arthur Benjamin Cruickshank, London, England, assignor to himself, and John Frace, San Francisco, Cal.

Design for a syringe-bulb.

TRUE ALSO IN GARDEN HOSE AND MACKINTOSH LINES.

RUBBER footwear is entirely different from any other commodity. Its popularity depends solely upon the conditions of the weather. A great many other industries are largely affected by political conditions and by the general business situation, but with rubbers it is different; politics and financial conditions have very little to do with the demand for rubbers. If the weather is fine, nobody wants rubbers at any price; if the weather is bad, everybody has got to have rubbers, no matter what the price.—*Shoe and Leather Review.*

PNEUMATIC VEST & CORSET CO., NEW YORK.

TO THE EDITOR OF THE INDIA RUBBER WORLD: We would like you to advise us if possible who manufacture inflated swimming corsets. We have had several inquiries for these goods and we do not know where we could purchase same.

LATTA & MULCONROY.

Philadelphia, October 18, 1898.

A CORRECTION FROM PARA.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Noticing in the September number [p. 345] of THE INDIA RUBBER WORLD, some remarks of Mr. F. W. Dunbar, apropos of The Rubber Estates of Pará, Limited, in which he asserts among other things that "probably not even the boundaries are known definitely"; also, "but as for some figures in the prospectus issued by the London promotors, the only comment needed is that they are certified to not by the British consul at Pará, but the consul at Bahia", and having been the broker who obtained the firm offer of the Visconde de S. Domingos rubber estates for the parties who placed them on the London market, and having accompanied the transaction in all its phases, in the same capacity, I beg Mr. Dunbar's permission to correct these errors under which he appears to be laboring.

As regards the boundaries not being definitely known, I having had in my hands not only the title deeds, but the government surveyor's report and notes; these having been examined and found correct by one of our most eminent lawyers, Dr. Samuel Wallace MacDowell (once minister of justice during the Empire), and I can assure any one that the limits or boundaries are *definitely* known, having been surveyed and measured and the necessary posts or marks placed in these respective positions, these marks being of the hardest Brazilian woods (acapu or iron wood). To do this paths were cut through a dense forest at no slight expense and not a short time.

Nearly all the engineers and surveyors engaged in the surveys of the different estates have been and are personally known to me; some are dead and some living, and one of them, Dr. Henrique de Santa Roza, is now at the head of the department of public work of the state of Pará, and all of them have been and are trustworthy and honest men. Thus it can be eassily proved that the boundaries are definitely known.

Probably Mr. Dunbar wished to convey the idea that some parts of the interior of these estates were not known, and in this he is correct, for there are thousands of acres which have never been trodden by human feet. Only a few months ago an exploring party was sent by the Visconde de S. Domingos into one of the estates and were obliged to return—nearly losing their way—without accomplishing the object for which they were sent.

Concerning the second assertion of Mr. Dunbar, the exact facts are as follows: Two Pará rubber receivers (aviadores), who had passed many years of their lives in the districts comprising these estates, certified to the quantity of trees per hectare (about 2¾ acres), also to the estate of preservation, production, etc. These signatures were authenticated by a notary public, Mr. Jayme Augusto Oliveira da Gama, who also authenticated the signatures to the other documents referring to this transaction and whose signatures to all the documents, except the above one, were legalized by the British consul at Pará.

All the documents, except the above one, were made and signed in duplicate, and as a copy of it was needed, it was made in Bahia (where they were all sent before being forwarded to England); the consul there was requested to certify to the correctness of the same, which he did.

Thus it will be seen that the documents were not certified by the British consul at Bahia, his services being requested to certify to the correctness of a copy of *one* document only, there being little need for comment in such a case and finally no consul was requested, or even did voluntarily, certify to facts of any nature whatever, but simply to signatures of public notaries and the above correctness to the copy of a document.

Begging you will publish these lines in the next issue of THE INDIA RUBBER WORLD, and which I have written not with the intention of offense, but simply establishing the true state of affairs, for during Mr. Dunbar's stay in Pará I have entertained with him the most amicable relations and still consider him one of my good friends.

FRED. POND,
Pará, September 22, 1898. Broker.

HOW RUBBER PAYS IN BOLIVIA, IF —.

IN a letter from La Paz, the capital of Bolivia, Mr. Frank G. Carpenter, a well-known American newspaper correspondent, gives some facts about the condition of the India-rubber business in that remote country. He reports an interview with Alberto Vierland, an Austrian residing at La Paz, who is largely interested in rubber and quinine. In speaking of the rubber forests near La Paz, Herr Vierland said:

"All of the best lands have been taken up, but they are in the hands of people who have not capital to develop them and are anxious to sell. The gathering of rubber is very costly. The Indians who do the work will insist on being paid in advance. The regions are always unhealthy, as rubber grows only in low, marshy soil, their roots under water for a part of the year. The Indians are afraid of getting sick, and they demand high wages, and will stay with you only for a limited time."

There is a profusion of rubber trees in the Bolivian forests, but Herr Vierland knew of but one cultivated plantation, and that contained only 100 trees. "In the forests you often find as many as 6000 trees to the square mile. I have seen groves of 10,000. The trees usually grow in the valleys below the eastern slopes of the Andes. They are of all sizes, from as big as your leg to the giant of the forest, 150 feet high, and so large that three men could not by joining hands, reach around one."

"Is there much profit in the rubber business here?" the correspondent asked.

"Yes, there is a great deal of money to be made out of it, but only by the use of large capital. No man can do much without $25,000 or $50,000, and he will make proportionately a great deal more if he has $100,000. With this amount he ought to net from 60 to 70 per cent. a year. There is no trouble for capitalists to get rubber forests. The best of the lands upon which such trees grow are now in the hands of Cholos, or Bolivians with Indian blood in them. They have taken up the lands of the government and have no money to work them."

The rubber from the district referred to is conveyed on the backs of mules to La Paz, or to Chililaya, on Lake Titicaca, finding its way in time to Mollendo, on the Pacific coast, whence it goes to Liverpool, where it is marketed as "Mollendo" rubber, at prices only a little lower than for the best grades of "Bolivian."

Bolivia has established a consulate at Philadelphia, at No. 233 South Fourth street, and has appointed as consul, Wilfred H. Schoff, foreign secretary of the Philadelphia Commercial Museum. The Bolivian government is anxious to disseminate information in relation to the rubber interest, and inquiries on the subject are invited by Consul Schoff, and also by the Bolivian minister at Washington, Señor Luis Paz.

FLAT ELASTICS WANTED.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Could you inform me of some manufacturer of flat elastic and flat non elastic goods. I looked through THE INDIA RUBBER WORLD but find none of that description. I would thank you very much for the address of some firm manufacturing same.

Syracuse, N. Y., October 21, 1898. A. B. CARLEY.

THE FRENCH RUBBER SYNDICAL CHAMBER.

*By E. Chapel.**

BEFORE approaching the study of the working of the "Chambre Syndicale Française du Caoutchouc" we ought to present some remarks on the subject of the corporate groups which, under the names of "Syndicats Professionnels" have assumed a very considerable importance in France. We must seek their origin in the necessity which has long imposed itself on the various interests involved in society to combine, in view of resisting the unceasing and increasing exigencies of the central power. Certain authors date back to the time of Pericles the first corporate associations, but more precise are the accounts left us by the Latin authors who date back to the epoch of Numa the existence of artisans' colleges in Rome.

The motives which presided at the constitution of these corporate groups were shown by that which followed, and we may now seek in the similiarity of causes the reproduction of like effects. Therein is to be found the explanation of the syndical movement which asserted itself anew during the Middle Ages. The necessity for individuals occupied in commercial, industrial and agricultural pursuits to unite their forces against their common enemies was the cause of the development of these corporations. Regarded from the point of view of resistance to despotic power, the movement would have been stifled at its beginning had it not been justified by the most legitimate aspirations, such as the solidarity of the corporate family concerning all its members, assistance for the unhappy victims of labor, and protection for the humble and poor. To these humanitarian obligations must be added the engagements contracted with a view to not permit the diminishing of the quality of the products manufactured, to prevent the degeneration of the products of fabrication and the debasing of prices. Such are the general principles which presided at the début of the "maîtrises et jurandes" (freedom and wardenship of a company).

Independently of the principal aim, defense of the corporate interests, we see asserted a conception of a high moral character which still subsists, and has permitted French commerce to acquire a legitimate renown for probity and loyalty, and has raised its reputation to the highest point. With the revolution of 1789 these coöperative institutions which during more than 5 centuries regulated French industry disappeared.

One of the first legislative measures of the new government proscribed all attempt at coalition under whatever form it might be produced, and decreed at the same time the right of labor equal for all.

The application of this legislative measure called into existence the abuses of the old system so energetically repressed. The new régime of absolute liberty had for effect the disengaging of unscrupulous manufacturers from all restraint, who were more anxious to make large profits than to justify the confidence of their clients. Then came a reaction; certain enlightened minds pointed out the dangers which menaced French industry. They could not think of reëstablishing the "maîtrises and jurandes" which they with reason reproached as constituting monopolies which by their nature opposed a real impediment to progress. It was necessary to find a new form for a new program. The activity of commerce and of industry stimulated by the facilities furnished to exchanges by the creation of railway lines rendering this imperative.

Under the influence of political events, the government of Napoleon I was unable to occupy its time with the study of this question, which was also put aside by the ministries of Louis XVIII, Charles X, and Louis Philippe.

The government of Napoleon III did not exhibit the same negligence and facilitated the movement, which was manifested only by a few isolated attempts in the first half of the XIXth century.

A certain number of manufacturers comprehended the necessity of uniting to discuss concerning more particularly their professional interests. The imperial authority tolerated these assemblages from which politics were excluded, but where on the contrary economical problems gave occasion for interesting discussions.

These associations received the name of "Syndicats professionnels" and became so important that it was necessary to reform the legislation, fallen into disuse it is true, but which could be revived by a government to which it might give umbrage.

By the provisions of the law of March 21, 1884, the "Syndicats professionnels" received their legal status and were enabled to exercise their functions without fear for their existence.

The "Syndicat professionnel" of India-Rubber, Guttapercha, Oil Cloths, Imitation Leather, etc., was founded the 22d of January, 1863, grouping therein the interests of different industries bound together by affinity. It comprised nearly all the manufacturers of Rubber, Guttapercha, and of Elastic Webs, Suspenders, Garters, Elastic Belts, etc.

In consequence of the vote and putting in force of the law of 1884, the Syndicate was reorganized in 1885, and the following are the principal articles of its bye-laws.

The "Syndicat professionnel" of the industries of rubber, Gutta percha, oil cloths, imitation leather, etc., is constituted in conformity with the law of March 21, 1884, with the object of studying and defending the general interests of the industries above named and those similar. It is composed of all persons belonging or having belonged to the said industries who have signed the form of agreement and continued to pay the annual subscription, the amount of which is fixed at 10 frs.

* It was under the high patronage of the Syndical Chamber that appeared the remarkable work "Le Caoutchouc et la Gutta Percha," which has rewarded its author, Mr. Chapel, the Secretary of the Syndical Chamber, with one of the highest recompenses of the Society of encouragement to the Sciences and Industry."—THE EDITOR.

The Syndicate is represented before the courts or public powers by its Syndical Chamber which is composed of 15 members who are elected by general assembly.

The Syndical Chamber examines all questions which can interest the industries which it represents. It receives and studies all communications which its members have occasion to present.

The members of this Chamber are elected for 6 years, but are renewed by thirds every two years.

The Chamber names its officers which comprise a President, two vice-Presidents, an Acting Secretary and a Treasurer.

The present Chamber is composed as follows:

Presdent, Mr. A. Sriber.

Vice Presidents, Messrs. F. Maurel and Lamy Torrilhon.

Acting Secretary, Mr. E. Chapel.

Treasurer, Mr. Lafleche.

The meetings of the Syndical Chamber are not held at any fixed date, but the members are convokued when there is reason to consult on occasions which present questions of real interest. That the members attend assiduously these meetings gives the best proof of the existing spirit of solidarity.

In crossing the threshold of the chamber, all mental reservations of competition disappear; there are no more competitors, but only a reunion of defenders of the general interests of the corporation; and thanks to the spirit of conciliation and devotion to the common cause, reclamations formulated and the propositions presented to the public powers have always met with favorable reception.

Let us point out among the questions most important treated by the Syndicate:—Revision of the tariffs of the railroads, treaties of commerce, customs tariffs, increased facilities of exchanges, augmentation of weights allowed for postal packages, examination of questions relating to industrial property, and international conventions made on this subject, etc., etc.

The deliberations of the Syndical Chamber are published in the "Collection of the Central Committee of the Syndical Chambers."

To judge by the zeal of which the French manufacturers give evidence by their assiduity at the meetings of the Chamber, one conceives the interest which attaches them to this institution which has rendered such valuable services to the Rubber and Gutta Percha industries in France.

HEARD AND SEEN IN THE TRADE.

ON meeting a gentleman whose firm, a year or two ago, supplied the equipment for a complete rubber-factory to be erected in Japan, I asked about the progress of his oriental customers in their new undertaking.

"We hear very little about them," said he. "The Japanese are still a very conservative people, and do not care always to let the world know what they are doing in a business way. The first order for machinery for the Japanese rubber-mill reached us through a New York exporting-house, who were instructed not to reveal the identity of the purchasers. Since then we have been anxious to have some one interested in the factory over there visit the United States and see the methods pursued by our rubber-manufacturers, but it has never seemed to any of them to be worth while. Besides, if one of them should come over and see what the Americans are doing, I doubt if his associates would believe his reports when he got home. One thing certain is that if the Japanese are going to keep to themselves in that way, refusing to see how the rubber industry is conducted elsewhere, their competition need not be feared here or in Europe. I have no doubt that the parties who bought plant from us are making goods of excellent quality. But it is not at all likely that they are making goods on an economical basis, measured from our standpoint. They probably are making very heavy goods, from a want of knowledge of how to make them lighter and yet of sufficient strength, and very expensive goods, because they have not yet learned the secret of the proper cheap ingredients to offset the high cost of crude rubber. Personally, we should like to sell a great deal of rubber-machinery to the Japanese, but we are not looking for any great progress in the rubber-manufacture there for a long time. Certainly there is no prospect of this part of the world being overrun with their goods. The Japanese can make cheap fans, because they mastered that trade long ago and have developed it on a large scale, but it does not follow that they can take up a new and unfamiliar industry and succeed equally well with it at once."

MANAGER KIPP was going through his mail when I looked in at the Goodyear Rubber Co.'s store, and talked of the trade as he opened the letters. One was from Constantinople, from a mercantile house that wanted to handle American rubber goods on commission. "I am not anxious to grant any credits so far away as Turkey," said Mr. Kipp, and it is safe to say that most other houses in the trade would have given a similar answer.

* * *

AT another time, in a mechanical-rubber house, I mentioned the subject of export trade.

"We are content to sell our goods at home," remarked the manager. "At one time we booked a large order for belting and other goods for direct shipment to Cuba. Whether or not we ever got our money, we determined after that not to ship goods on the order of foreigners whom we knew nothing about. We are always ready and willing to fill their orders if received through responsible houses here at home, and we will make the prices right, but a direct export trade hasn't the glamour to our eyes that it has to some people in the trade."

* * *

AND yet Constantinople might afford a good market for American rubbers, if the right effort were made to get a share of the trade of the Mahometans. It is said that they wear light rubbers to their mosques, deeming it a sufficient uncovering of the feet to leave the rubbers at the door, which may often prove more convenient than the removal of their other footwear would be. While the United States export no new rubbers direct to Turkey, we import a good many old ones from there, for reclaiming purposes, showing that at least somebody in that country must wear them.

* * *

THE Japanese are not the only conservative people in the industrial world. One of our manufacturers of reclaimed stock who opened correspondence lately with several leading rubber

concerns abroad with a view to selling them his product, tells me that some of them actually replied that they had never heard of "reclaimed rubber." They were not averse, however, to making a trial of it. Considering the length of time and the extent to which this material has been used by American rubber-men, it is surprising that there is anybody in the trade anywhere to-day who is not acquainted at least with its character.

* * *

I ASKED this manufacturer whether he considered it probable that the European manufacturers, in case they became larger users of reclaimed rubber, would ever manufacture their own supplies.

"Not altogether. There is already some reclaimed rubber made abroad, but it is not equal to what is made in America, partly on account of the quality of their rubber shoes. This is due largely to the effect produced upon the rubbers by vulcanizing them upon metal lasts instead of wooden ones, as in this country."

* * *

PERHAPS the quality of the foreign-made rubbers may explain why our imports of them for reclaiming purposes have not kept pace with the growth of the rubber-reclaiming business in America, or with the increase in the production of rubber footwear in Europe. Although the price of rubber scrap have been going up in this country, our imports from Europe have been falling off.

* * *

WHEN the druggists'-sundries men were discussing a revision of their lists last month, and were talking about the proper difference in price between different sizes of water-bottles, for instance, an outsider asked whether the comparative number made of the different sizes was considered. It was evident to him that more were made of some sizes than others, and he supposed that a lower cost of production of these would result.

"There are a great many more water-bottles made in some sizes than in others," said a manufacturer, "but that doesn't affect the cost of production. All such goods are made by hand, and paid for as piece-work, so that a thousand water-bottles of any given size cost just 1000 times as much as one. Our business is not like that of the iron foundries, where the cost of production decreases with every increase in the output."

* * *

"WILL you make tires for next season?" I asked in the office of a rubber company who have been consistent in standing out against low prices from the beginning.

"We shall fill orders at our advertised prices, but probably shall not attempt for another year to push our tire trade. We have made no tires except those marked with our name, and have tried hard to make a reputation for quality, and we do not see now why we should risk all that we have gained merely to make a big showing in sales, which, after all, would leave us practically no profits. We are hopeful, however, of a return of the demand for tires of the best quality, and if this should come we shall be ready to meet it. One possible effect of the cheap prices now prevailing for single-tube tires may be to improve the demand for the double-tube sort. If the buyer of cheap single-tube tires finds himself troubled all the time to make repairs, he may in time attribute it to the style of tire, instead of its poor quality, and conclude to change to the use of some other style."

SIX YEARS' CHANGES IN THE TRADE.

ACCORDING to the prospectus of the United States Rubber Co., issued October 27, 1892, arrangements had been made for the control of "twelve of the fifteen manufacting companies in which is centered the entire rubber boot and shoe business of the country." Ten of these were named in the prospectus as follows:

American Rubber Co.	Boston, Mass.
Boston Rubber Co.	Boston, Mass.
L. Candee & Co	New Haven, Conn.
Goodyear's Metallic Rubber Shoe Co.	Naugatuck, Conn.
Lycoming Rubber Co.	Williamsport, Pa.
Meyer Rubber Co.	New Brunswick, N. J.
National India Rubber Co.	Bristol, R. I.
New Brunswick Rubber Co.	New Brunswick, N. J.
New Jersey Rubber Shoe Co.	New Brunswick, N. J.
Pará Rubber Co.	Boston, Mass.

There were more companies in the field, however, than were enumerated in this prospectus, those unaccounted for being:

Boston Rubber Shoe Co	Boston, Mass.
Brookhaven Rubber Co.	Setauket, L. I.
Colchester Rubber Co.	Colchester, Conn.
Goodyear's India Rubber Glove Manufacturing Co.	Naugatuck, Conn.
Goodyear Rubber Co.	Middletown, Conn.
Lambertville Rubber Co.	Lambertville, N. J.
Marvel Rubber Co.	Woonsocket, R. I.
Woonsocket Rubber Co.	Woonsocket, R. I.

Altogether the names of eighteen firms appear here, but the Pará Rubber Co. had failed already, and was never operated again; the Marvel Rubber Co., devoted to the production of a patented specialty, was really only a branch of the Woonsocket company; and the Lambertville company, also manufacturing specialties, did not enter into the general competition. There were thus practically only fifteen companies to be considered, though several of the companies operated two or more factories each. Gradually all the factories concerned, except the two at Middletown, Conn., and Lambertville, N. J., have passed into the control of the United States Rubber Co. Some of them have ceased to be operated, while their places have been more than filled, so far as number is concerned, by new factories not embraced in the consolidation.

A complete list of the companies now would appear as follows, the printer having set in *italics* the names of those embraced in or controlled by the United Rubber Co.:

American Rubber Co	Boston, Mass.
Joseph Banigan Rubber Co	Providence, R. I.
Boston Rubber Shoe Co.	Boston, Mass,
Augustus O. Bourn	Providence, R. I.
Byfield Rubber Co.	Bristol, R. I.
L. Candee & Co.	New Haven, Conn.
Empire State Rubber Co.	Setauket, L. I.
Goodyear Rubber Co.	Middletown, Conn.
Goodyear's India Rubber Glove Manufacturing Co.	Naugatuck, Conn.
Goodyear's Metallic Rubber Shoe Co.	Naugatuck, Conn.
Hood Rubber Co.	Boston, Mass.
Lambertville Rubber Co.	Lambertville, N. J.
Lycoming Rubber Co.	Williamsport, Pa.
Mishawaka Woolen Manufacturing Co.	Mishawaka, Ind.
National India Rubber Co.	Bristol, R. I.
United States Rubber Co [*Jersey Co.*]	New Brunswick, N. J.
George Watkinson & Co.	Philadelphia, Pa.
Woonsocket Rubber Co.	Woonsocket, R. I.

Here are also eighteen names, without including the New York Standard Rubber Co., recently incorporated to operate an idle factory at Elizabeth, N. J. The factory at Setauket has not been operated recently. The Lambertville factory has enlarged its scope. There are at least seventeen concerns to be counted in the trade to-day, and all those operating two or more factories in 1892—the Woonsocket, Boston Rubber Shoe, and the Naugatuck companies—continue to do so. It cannot be said, then, that the policy of consolidation has lessened the number of rubber-shoe factories. It is more than likely, too, that the annual production has also increased.

BIG PROFITS IN AMAZON RUBBER.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The transfer to "The Pará Rubber Estates, Limited," an English corporation, of the rubber lands of the Visconde de Sao Domingos, has been completed, possession having been taken by Mr. E. Kanthack, of Kanthack & Co. (Pará), trustees of the above-mentioned corporation. This property comprises eleven adjoining parcels of land, with a total of more than 180,000 acres—the largest freehold estate in the Amazon valley. By means of the river Anajas, navigable for the largest steamers on the Amazon, and numerous tributaries, navigable for tugs, launches, and canoes, this estate is particularly accessible. The rubber from this estate has always found ready buyers, and often at higher prices than other "islands" rubber. It is asserted that the buyers at Pará for Charles Macintosh & Co., of England, are always on the alert for this quality of rubber.

Having $250,000 working capital, the new proprietors should not only develop their own rubber, but practically control the production of neighboring estates—say 500 tons a year, altogether. It has been figured that their profit should amount to 25 per cent. on the rubber, not counting the rentals paid for the *estradas* by the rubber-gatherer, or the further profit accruing on the merchandise exchanged for the rubber. The rubber-gatherer is nearly always paid for his product in the necessaries of life and other merchandise. These figures may seem preposterous to some, and they have been contested by persons who have endeavored to prevent the formation of this company, but they can be proved.

The price now paid in the islands district by the trader who deals direct with the rubber-gatherer is 2500 to 3500 reis per kilogram less than the market price for rubber in Pará. Meanwhile the rubber-gatherer is paying rent for his *estradas* at the rate of 10 per cent., on the value of the land occupied. The merchant in Pará who deals with this trader, or middleman, shipping merchandise to him, charges at least 10 per cent. commission on his invoices; perhaps he makes a larger profit, through having bought his goods in job-lots. Of course the middleman must also make a profit on the goods—at least 10 per cent., and often much more. It is only necessary for the new company to do away with the middleman and maintain their own stores to reap all the various profits above outlined.

It may be mentioned that the price paid by the middleman to the men who tap the trees and cure the rubber varies with the distance from Pará. The greater the distance, the greater the expense of getting a working force together, and the greater the cost of transportation, both for goods and provisions upstream and the return cargoes of rubber. Then there is difference in promptness of returns. In case of the nearby trade the turn-over of capital may be considered as almost monthly, while at extreme distances it will be only half-yearly. In the islands district, as already mentioned, the price paid to the rubber-gatherer is 2500 to 3500 reis per kilogram less than the Pará price; on the remote upper Amazon the difference ranges from 4500 to 6000 reis. Last season on one of the branches of the Madeira, above the falls, rubber was bought at 4500 to 5000 reis which was sold at Pará for 10,500 to 11,700 per kilogram.

It will be plain from the above that a transformation in the methods of the crude rubber business will come in time. The investor on the lines of the new company referred to here will be discouraged by those whose interest it is to keep him away. He will be told how sickly the Amazon valley is, how surely he will be swindled, and every other argument imaginable to dissuade him from his object, but it is only necessary that capable men should persevere in the business and do away with the middleman to begin a new era in the rubber trade. In the end, no doubt, rubber manufacturers will be their own producers of crude rubber. If one cannot undertake the business alone, a syndicate of manufacturers could do so. Rubber estates of any size can be had here—from 10 *estradas* (of 100 trees each) upwards. The expense of working them is light. A local manager is necessary, and a force of rubber-gatherers, together with a shipping-agent at Pará or Manáos. Then the shipment of rubber from the Amazon valley forests to a North American or European factory could be made direct, at a great saving compared with present prices.

M. F. SESSELBERG.

Pará, Brazil, September 13, 1898.

* * *

FIRST MEETING OF THE NEW COMPANY.

SOME details regarding "The Pará Rubber Estates, Limited," appeared in THE INDIA RUBBER WORLD of June 1 last, since which time additional facts of interest have come to hand. The public were invited to buy shares at £1 each, the total issue being 380,000, but the vendor of the estates was willing to take not to exceed a certain number as part payment of the purchase money. Of a total of £350,000 which figured in the prospectus, £50,000 was to be reserved for working capital, and it was given out in Pará that the remaining £300,000 would go to the syndicate transferring the property, though the price at which the visconde de Sao Domingos disposed of the property was only £50,000.

It appears that the public subscribed less liberally than the promoters had hoped. At the first ordinary general meeting of the company, held recently in London, the Hon. John Augustus de Grey, who presided, stated that 62,066 shares had been applied for by the public. And he added:

"Our present resources at the present moment amount to £62,066, out of which the sum of £46,500 has to be paid in cash towards the purchase of the property, leaving a balance of about £16,000 in cash for immediate purposes as working capital. Moreover, as stated in the prospectus, guarantees were given for the provision of a further sum of over £34,000, so as to make up the working capital to £50,000. Since the prospectus was issued, the response of the public not being sufficiently satisfactory, the directors thought it necessary to exact from the guarantors payments on account—and also that security should be given for their fulfilling their guarantees. Payments on account have been arranged, so that your directors consider themselves entitled to expect that the whole of the £50,000 cash working capital will come into their hands for use."

Regarding the company's prospects, the chairman said: "There is one thing which will probably prevent our obtaining in the first year of our working such large profits as we hope to do eventually, and that is that the estates have been hitherto worked on a system of employing middlemen; the owner has obtained the rubber from middlemen, who have got hold of the larger share of the profits. Now it is our intention in the future to alter that system; but we are not confident of being able to upset a system which has been going on so long, in the first year of our existence. We think it must be a more or less gradual process, but we intend to do away with that system, and intend to send up our own laborers, and receive the rubber direct from them. As regards the working of the estates, I believe there are only about 300 roads, as they are called, being worked now, but the number of roads capable of being worked in the future is about 7500."

The company have appointed G. T. Milne as their manager, to reside on the estates, which are situated on the great island of Marajó, in the lower waters of the Amazon.

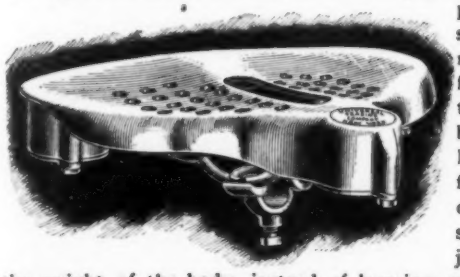
NEW GOODS AND SPECIALTIES.

A PUNCTURE CLOSER.

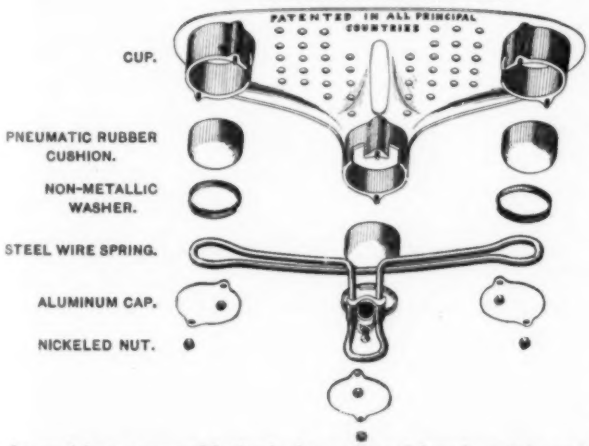
THE Glines Liquid Rubber Co., of Providence, R. I., have placed on the market a liquid rubber for repairing pneumatic tires, which they have been putting to thorough tests, and now claim that it will not injure the tire in any way, and that it will heal any ordinary puncture or a porous tire. The essential feature of the liquid is that it solidifies quickly, thus practically becoming a part of the tire. The company have so much faith in the liquid that they will guarantee to replace any tire that has been injured through its use.

THE "DR. RICHMOND UNIVERSAL" SADDLE.

THE "Dr. Richmond Universal Saddle," of which two views are shown herewith, is the invention of a physician, growing out of his desire to produce something suited to patients who for a variety of reasons were not able to use the ordinary saddles. The top of the saddle is a wide aluminum plate, free from soft pads, thus insuring a permanently uniform rest for the pelvic bones, by allowing the flesh plenty of room to spread or adjust itself to the weight of the body, instead of hanging over the sides and back, thereby permitting the bones to indent themselves into cushions which become hard, injurious and painful. The depressions in the aluminum seat conform anatomically to



BOTTOM VIEW ALUMINUM SEAT.



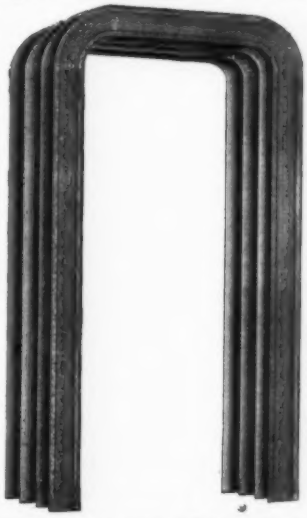
the positions assumed by both the male and female pelvis and flesh covering when the body is in a sitting position, and the many openings through the seat, added to the well-known ability of aluminum to conduct heat away, insure coolness. The absence of a pommel is a most desirable feature, and, with the long central opening, prevents any pressure upon the sensitive parts. The main feature, however, is the substitution of soft pneumatic rubber cushions in place of the spiral steel springs under the aluminum seat. The position of these rubber cushions, and the manner of placing them are shown clearly in the view of the parts of the saddle. The pads completely separate the metal post springs from the seat proper, and also prevent the dangerous rebound which follows the compression of steel springs—particularly spiral springs. Manufactured by the Universal Trading Co., 11 Warren street, New York.

THE DYKES FLEXIBLE RUBBER HEEL.

DYKES'S flexible rubber heel is an invention of interest to all who are called upon to stand or walk for many hours of the day. It is made of a fine quality of rubber, and is attached to the shoe by a strong cement, and by small nails imbedded in the rubber about a quarter of an inch, as shown in the accompanying cut. A small burr holds it in place and prevents the nails from pulling through the rubber. The heel is about half an inch thick, and can be adjusted to any kind of a shoe. Besides the natural adhesiveness of the rubber, it has on the side which comes next to the ground, six suction holes which prevent slipping. Manufactured by J. L. G. Dykes Co., 96 Fifth avenue, Chicago, Ills.

CAR VESTIBULE DIAPHRAGMS.

SINCE vestibule trains have become so common, the business of manufacturing the diaphragms that connect the cars has grown to large proportions. The illustration shows the general shape of this very ingenious combination of canvas and rubber. They are made of very heavy stock, in four deep folds, accordion fashion, and are rubber coated inside and out, making the space between the cars, both waterproof and dustproof. Manufactured by the Boston Belting Co., Boston, Mass.



THE "WHIRLPOOL" NOZZLE.

THE "Whirlpool" is claimed to be the only nozzle that has separate water ways for the spray and solid streams, each controlled by independent shut-off arrangements. As soon as the water enters the nozzle it is forced with equal pressure into the inner nozzle for the solid stream and into the outer nozzle for the spray. A slight turn of the bell downwards or upwards also changes the direction or angle of the spray, and, according to the requirements of the fire, more than one hundred different sprays of different size, volume, and direction can be had. The spray creates no back pressure and its diameter is

exceptionally large, eighty pounds' pressure producing a spray about seventy feet in diameter. Taking into consideration that the spray does not branch out from the solid stream, but that both are created independently and are separate from each other, it will be evident that the opening of both shut-offs simultaneously cannot materially decrease the force of the water at either outlet. This is surely of great importance, inasmuch as the spray and solid stream can be had at the same time, thereby giving not only protection to the pipemen against heat, smoke, or cinders, but also enabling them to successfully fight the fire at close range with the solid stream. As a smoke-driving device this spray is excellent, because no matter how large the room, the great diameter of the spray, throwing the water with tremendous force, will immediately draw an impenetrable water curtain from wall to wall and from ceiling to floor. The "Whirlpool" nozzle is made of aluminum steel, and weighs about 4½ pounds. It is also to be had in brass. Manufactured by A. W. Dolfini & Co., 140 Nassau street, New York.

THE COMBINATION STEEL AND RUBBER TIRE.

WHAT is known as the Hall Combination Steel and Rubber tire is rapidly coming to the front as it has special merits that other tires lack; is also durable and very comfortable. In applying this tire the ends of the steel ribbon that runs through the center of the rubber are offset into the slot in the steel channel and held firmly in place by a steel bolt, passing through the felloe and secured by a nut and washer underneath, as shown in cut. This method of application prevents all creeping or traveling of the rubber tire in the channel, which has been a universal complaint. It is so simple in its adjustment any one can quickly and easily apply it, and in case of accident it can be quickly and easily repaired. It is also said to be the cheapest, most easily applied, and the most durable. The manufacturers license carriage builders and dealers in any city and thus avoid the necessity of sending wheels long distances.

Manufactured by the New England Rubber Tire Wheel Co., 110 Oliver street., Boston, Mass.

WHITE RUBBER COLLARS.

CELLULOID collars have long been in use, but are open to objection for a variety of reasons. A collar that so closely resembles white linen that it takes close scrutiny to reveal the fact that it isn't is made of what is said to be partly at least a white rubber compound. This collar has all of the special advantages that the celluloid claims, that is, it is waterproof and when soiled can be easily cleaned with a wet sponge. In addition to this it does not grow yellow with age, and there is no danger of a spark igniting it. The goods are having a great sale among conductors, motormen, letter carriers and travelers. The general agents are Frederick E. Hill & Co., 28 School street, Boston, Mass.

DARLING'S PENCIL PLANE.

A VERY useful desk accessory which will be of interest to the handlers of sundries is Darling's Pencil Plane, manufactured by F. A. Darling, 46 Ann street, New York. The essential features of the plane are that it does not soil the fingers or litter the floor; it does not haggle the pencil, and it cannot accidentally cut the fingers; it does not break the point, thus saving from 50 to 100 per cent. in pencils; it makes a long or short point, according to the angle at which the pencil is held during sharpening; it does not become worthless after a little use, and it does not get out of order beyond repair. The retail price is ten cents, thus placing it within the possibilities of a thoroughly popular article.

THE "UTILITY" RUBBER MITTEN.

THE accompanying cut represents the "Utility" rubber mitten, which is constructed so that cloth or other fabric may be sewed to the binding on whichever side the greatest wear occurs. This fabric may be added to, or the glove recovered, without affecting the wearing of the rubber surface, and, consequently, the glove will outwear many pairs of the ordinary kind. They are made in heavy and light gum, and are sold either plain or with cloth sewed on one side. The "Utility" is the only mitten made in which there is no friction in the wearing, and is designed for all kinds of rough and hard usage by bricklayers, masons, hod-carriers, motormen, cartmen, etc. Manufactured by the Seamless Rubber Co., New Haven, Connecticut.

THE SEMLOH SPRAY SYRINGE.

A SYRINGE that for simplicity, durability, and convenience has few if any equals is what is known as the Semloh. The illustration shows exactly the type of spray that it throws. This form of spray being secured by two circular slits at the end of the hard rubber pipe. The Semloh is small, compact, is easily and instantly filled, and has no valves to get out of order. The bulb and tubing is made of a handsome jet black non-blooming compound, while all the other parts are made of hard rubber. Manufactured by the Semloh Company, 45 Rockwill place, Brooklyn, N. Y.

RUBBER-HEELED POLICE.

FROM a jubilant Youngstown, Ohio, journalist comes the following pæon: Let the sleepless mixer and vender of Manhattan cocktails and gin fizzes who keeps his back door open and supplies the thirsty public with liquid hilarity after the hours when the city ordinances say his place shall be closed beware! Let the gayly dressed gambler who rolls the dice or shuffles the cards pull up the ladder at his back window and turn down the lights! The police are going to work a new deal. The blue coated preservers of the city's peace have long been bothered on account of the noise their brogans make when they attempt to creep upon their prey. But they have hit upon a plan that will render the approach of the force as noiseless as the footfalls of a cat. They are wearing rubber heels on their shoes. The rubber heels are about half an inch thick and render the footsteps almost noiseless. Shod with these modern improvements a policeman can sneak up to a burglar and "swat" him over the head with his mace while he is still going through a safe. With these noiseless cushions an officer can march into a saloon and pull the whole house before the bar tender has time to charge up the drinks his last customer has run up. The wily preservers of the peace with the modern appliances for destroying noise can get into a crap game and round up the crowd before the proprietor has time to call the dice.

Besides being noiseless these rubber heels impart a "springy" and agile motion to the carriage which will make the police force seem youthful and frisky.

BICYCLES AND THE RUBBER TRADE.

SOME rubber-men who have been studying the condition of the bicycle trade, with a view to sizing up the demand for tires, are of the opinion that the output of wheels will again be large next season, which means a continued good demand for tires for new wheels, besides what will be needed for wheels already in use. Without doubt there has been a decline in bicycling where it has existed only as a "fad," and some of the most enthusiastic cyclists of the past season or two have returned to horseback-riding for exercise, but their number is insignificant in comparison with the masses who never owned horses and never will. The number of users of the bicycle as a means both of recreation and of locomotion undoubtedly is increasing, and seems certain to continue to do so, at least until some hundreds of thousands of people have been supplied who could not afford the former high prices but who can pay the lower prices of to-day. When everybody has been supplied who is able to own a bicycle and who cares to ride one, the volume of renewals required annually will support a large industry, both in bicycles and in tires. There is no danger, in any event, that the demand for rubber in the bicycle trade will fall off. The only question relates to the changes which may take place.

There is a prospect, however, of a smaller rather than a larger number of bicycle-manufacturers. After the failures and assignments in this industry during the past year, capitalists naturally will be discouraged from investing in new factories, banks will be more cautious about extending accommodations, and every fairly good factory superintendent will not, as in the past, imagine himself able to organize and manage successfully a bicycle plant of his own. If all the wheels manufactured in the past, with the *bona fide* intention that they would be sold at the high prices which prevailed for awhile, had been sold as advertised—and the cash collected for them—large fortunes might have been made in many cases where, as a matter of fact, nobody profited except a sheriff or assignee, and that only to the extent of their fees. The outcome of the industry is likely to parallel that of the sewing-machine trade. There was a time when everybody who could do so went into sewing-machines, until a reaction came, with a gradual reduction in the number of manufacturers, either through failure or by consolidation. It will be a good thing for the tire trade when the production of bicycles is confined to fewer firms, and these on a sounder financial basis. Then we shall not see the rubber concerns sufferers to such an extent when a bicycle firm fails; besides, a smaller number of customers for tires will reduce the present stress of competition in the tire trade, which is so large a factor in depressing prices.

Of course, bicycles are not going to be higher in price; how much lower they may be no man knows. There are people in the trade who think that the existing prices for high-grade wheels will remain the standard for some time to come, but prices are something which can never be regarded as fixed in a market of open competition. It is no easier to maintain a $50 standard than one of $100, and even if a manufacturer does hold out for his advertised price, he may allow so many concessions in the way of free lanterns, bells, and the like, as to amount to a heavy reduction, and to that extent demoralize the trade in which he is a competitor. It being settled that bicycle prices are going to continue low, even for the best grade of wheels, the question comes up as to where the manufacturer shall begin to reduce the cost of construction. Evidently some of them have considered the tire as the proper starting-point, from the low prices at which they demand that the rubber-man shall fill their orders. But the fact is, that the cheapest wheel ought to have the best tires that can be made, to offset any lack of excellence in other respects. The cheapest wheel, with first-class tires, may give better satisfaction, and for a longer time, than a thoroughly good wheel with tires lacking in resiliency and constantly liable to give way. This is an argument which, it seems to me, the rubber-man ought to try to impress upon bicycle-manufacturers.

Still it may be good business for the tire-maker to produce the sort of goods for which there is a demand. If the bicycle people persist in a mistaken course, they must find out for themselves wherein they are wrong. Hence, tires will continue to be made to suit the ideas of every bicycle-manufacturer, even if some of them may be of such a character that no rubber-man will care to have them bear his name. There are some rubber-men, however, who do not see their way clear to making tires of different qualities, fearing that their cheapest tires will too often be used as a measure of quality of their output as a whole, and while these manufacturers see the bicycle trade attracted by lower-priced rubber goods, they are disposed to hold out against the tendency to cheapen quality, in the hope of a reaction which will prove to their benefit in the end. One manufacturer, who has declined to make a cheap grade of tires, insists that his output has not fallen off at any time, in spite of the much lower prices of large quantities of goods on the market, which he considers as proof (1) that the output of wheels continues very large, and (2) that there will always be a demand for high-grade tires. His impression in the latter regard is strengthened by the fact, as he claims, that bicycle firms have bought his tires this year who have not done so before, claiming in the past that his prices were too high.

A feature of the trade that is of interest is the evident tendency among bicycle-manufacturers to reduce the number of "options" which they offer to buyers. While the whole cycling world was at sea as to the comparative merits of various tires and other accessories, the bicycle-manufacturer's strong point was in the model adopted for his wheel, allowing the purchaser to exercise the widest latitude in the choice of tires and the like. Now that cyclists have learned that less difference than was formerly supposed exists between different makes of goods—so long, of course, as quality is maintained—bicycle-makers as a rule seem disposed to adopt a certain equipment as their standard and to allow few or no options. One result of this is to reduce their business to a better system, relieving them of expense as well as trouble. The cyclist who admires a given model is apt, generally, to take it with whatever equipment is offered by the manufacturer, but in the few cases where he is not, the manufacturer is willing that he should buy elsewhere, rather than be troubled with helping to fit him out with a special make of tires, saddles, or what-not. Hence it is probable that fewer manufacturers than hitherto will be found listing both single-tube and detachable tires in their bicycle catalogues.

HAWTHORNE HILL.

CHINESE LADIES LIKE THEM.—A kind of rubber strap, adorned with gay colored ribbons, and manufactured mostly in St. Etienne, has found favor with the Chinese ladies as belts.

RETURN OF A VISITOR TO THE RUBBER COUNTRY.

WITH a view to a better understanding of the crude-rubber situation in the Amazon country, the Peerless Rubber Manufacturing Co. (New York) recently sent their Mr. Leonard J. Lomasney to Brazil, whence he returned to New York on the *Cametense*, arriving on October 17. Mr. Lomasney spent some time at Pará, after which he made a trip to Manáos and return, by steamer.

"I was pleasantly surprised with the appearance of Pará," said Mr. Lomasney, "both as to its size and the character and extent of its trade. In recent years the city has had a lot of money to spend, derived from the export duties on rubber, which it has devoted to works of public improvement. Manáos, also, has undergone a marked improvement of late, I should judge, and for similar reasons. For instance, there is a great difference between the height of the Amazon at different seasons, and formerly much trouble was caused by the backing up of the water in the city in certain months. The municipality has been making large expenditures in raising the banks along the city front; and a system of sewerage is being introduced. The steamer on which I came home carried on her return trip several electric cars for the first street railway in Manáos, which is being constructed with capital from the United States. I learned that an electrical engineer from this country was in Pará, at the same time, preparatory to the substitution of electric traction for the horse railways there.

"There is every indication that the output of rubber from the Amazon will be increased in the near future. Ten thousand laborers from the eastern coast of Brazil—Cearense and others—were going up the Amazon to work in the rubber forests, owing to the increasing demand for rubber during the past year or two, and the consequently higher prices obtained. So great an addition to the labor force can hardly fail to add to the tonnage of rubber produced. As to the extent of the unworked rubber forests, it is beyond all computation. Even in the 'Islands' districts, in the lower Amazon valley, the limit of production is far from being reached, while new fields are discovered with each additional advance upstream. I feel assured that there is enough rubber in that country to meet all demands for a great while to come, while from what I saw it is evident that additional labor will always be forthcoming so long as there is a promise of a steady sale for rubber at good prices.

"The rubber trade in Brazil is conducted under methods which have long been established, and the handling of rubber at Manáos and Pará is in the hands of a comparatively few large firms, who may be counted upon to continue to control it. A new firm in the trade, without very large capital, could not compete on even chances, especially if unable to use the language of the county, which is Portuguese. The leading houses, especially when rubber is in good demand, are active competitors in buying the rubber brought to market, and the greater the demand, the higher the prices paid by them. The extra profits on rubber, so far as I could see, go to the middlemen, or traders who go upstream with merchandise and bring down rubber in return. There are firms in the exporting trade who buy for shipment on their own account, while others confine themselves to the execution of orders for importers in the United States or Europe. On account of the constant fluctuation in exchange, the trade in rubber is always more or less speculative.

"Pará continues to be the center of the rubber trade. Owing to the isolation of Manáos the firms in the trade there are obliged for the most part to operate through Pará. The Amazon cable has never been in working order over its whole length for more than a few days at a time, and I doubt whether it ever will be. The current of the Amazon is so powerful and swift that the banks are continually washing out and changing their shape. One trouble with the cable is that the great trees along shore which are being uprooted all the time sink in the stream, on account of the heavy quality of the wood, and break the wires. An overland telegraph line would hardly be practicable, for the reason that so much of the distance is overflowed, during all or most of the year, so as to interfere with its construction. I heard some talk, however, of a long-distance telephone system to take the place of the cable.

"There is an undoubted opening for more American goods than are yet sold in Brazil. I saw a preference shown for various articles of American manufacture. It appears that whenever the Brazilians are once favorably impressed with a line of goods, they will buy that line even in preference to another of better quality or lower in price. I saw the Collins knives or *machetes*, made in Connecticut, in all the hardware stores, these goods having maintained their popularity ever since they were first introduced, forty years ago or more. Not much can be said of the enterprise of some of the Americans who have tried to introduce goods there. I saw a great quantity of ornamental fans and other forms of advertising matter that had been sent down to Brazil by a New York exporting house, but all the printing on them was in English, whereas the only language read by the natives is Portuguese. Consequently, the cost of such advertising must have been a dead loss."

Mr. Charles H. Dale, president of the Peerless company, said to THE INDIA RUBBER WORLD representative: "We have contended all the while that the high prices of rubber for the past two years have been due largely to speculative influences, under which advantage has been taken of the manufacturer. In order to determine the matter for our own satisfaction, we sent a representative direct to the rubber country, and while we do not care as yet to discuss all the details of his report, we see no reason to change the opinion to which we have held all the time. One thing which we can say however is this: The importers have been claiming that the high prices charged for rubber were due to the fact that the demand had gone beyond the greatest possible capacity for production. This, we are convinced, is not the case. The demand might increase in any given year beyond the capacity of the workers then in the field to meet it, but additional laborers are certain to be available, somewhere, for an increased supply for the coming year. What Mr. Lomasney has reported in regard to the unusually large number of new laborers going up the Amazon this season is proof of this. We feel that the importers have been profiting largely by the high prices of the past two years, but we shall be surprised if there is not a healthy fall in prices before this season ends, and one that will last."

THE FIRST DUNLOP RIMS.—Dr. John B. Dunlop, the Irish inventor of the pneumatic bicycle tire, in a recent interview, stated that the wheel-rims of the first bicycle he fitted with his tires were formed of strips of American elm. The use of metal rims appears to have been only an afterthought.

RECORD OF BUSINESS TROUBLES.

THE wholesale and retail rubber-goods business of Boyd, Jones & Co., of Baltimore, was placed in the hands of receivers on September 30. The petition for receivers was made by the Boston Rubber Shoe Co., and Francis K. Carey and John F. Williams were appointed by the court, each under bonds of $100,000. At a meeting of creditors, on October 18, at which 85 per cent. of the claims against the company were represented, it was stated that a proposition had been made by a responsible party to purchase all the assets of the company, including stocks of goods, book accounts, good will, etc., for such a sum as would, after defraying the expenses of the receivership, net the unsecured creditors 50 per cent. on their claims. It was voted to accept this proposition, for the reason that it would save the expense of winding up the business by receivers, and would be more likely to save the business from going to pieces, while netting more for the creditors. A committee of the creditors was appointed to carry out the details of the plan adopted. The company's assets are estimated at about $134,000, and the liabilities at $190,000. The firm were a partnership composed of Clarence J. Boyd and William Henry Jones, having a wholesale store at No. 22 Hopkins place and a retail store at No. 12 North Charles street. The retail store was formerly conducted under the name of the Patapsco Rubber Co. At the beginning of July, 1897, the firm became selling-agents in Baltimore for the New York Belting and Packing Co., Limited.

* * *

AT a meeting of about fifty stockholders of the Boston Woven Hose and Rubber Co., held at their factory at Cambridgeport, Mass., on October 7, the assignees of the company presented a report on the condition of the business in their hands. The company's business in the rubber line and in woven hose was stated to have been good and capable of being continued at a profit, while the bicycle-tire department had made a less favorable showing. The advisability of offering to make a settlement with the creditors was considered, after which a committee—consisting of W. A. Bullard, Arthur E. Denison, and C. H. S. Durgin—were appointed to recommend terms, after taking account of stock and otherwise making a thorough investigation. An adjournment was then had until such time as the committee may be ready to report.

* * *

EXECUTIONS amounting to $58,000 were issued against the Lovell Manufacturing Co. (Erie, Pa.), on October 5, by the Combination Roll and Rubber Co. (New York.) When the sheriff went to make the levy he found all the property of the company claimed by H. E. Fish, under a deed of assignment made by the company for the benefit of their creditors, without preference, and the assignee was allowed to remain in charge. The business of the company, which is the manufacture of clothes-wringers, was established about twenty years by the late M. N. Lovell, and has been regarded as uniformly successful. There have been large sales, and the assets of the company have been rated at $300,000. The factory will be continued in operation by the assignee, and the impression prevails in Erie that the embarrassment will be temporary.

* * *

UPON application of Frank A. Magowan, the Trenton court of chancery on October 5 granted an injunction restraining W. H. Skirm from transferring 1048 shares of the Empire Rubber Manufacturing Co. (Trenton.) In proceedings instituted by Reimers & Meyer, of New York, to discover the whereabouts of certain certificates of stock formerly held by the ex-mayor, the latter testified, on June 17 last, that large blocks of stocks held by him had been put up as collateral security to keep his rubber companies afloat. He said he had borrowed from Senator Skirm about $50,000, and for this loan he put up more than $250,000 worth of securities, and he had since borrowed money from Skirm, secured by stocks.

"You claim, as a matter of fact, that if you had a settlement with Mr. Skirm you would be able to liquidate some obligations that are against you?" Mr. Magowan was asked, in the June proceedings.

"A very large amount," he replied.

The injunction mentioned above was issued on an affidavit of Magowan that he was no longer indebted to Skirm, but that Skirm owes him. This claim is denied by counsel for Skirm.

On October 14, Vice-chancellor Reed heard argument on an application made by counsel for Reimers & Meyer for the appointment of a receiver to take charge of the shares held by Skirm.

* * *

A MEETING of the creditors of the W. H. H. Peck Co., dealers in rubber goods and leather belting, at Cleveland, Ohio, whose assignment was reported in THE INDIA RUBBER WORLD of June 1, was held on September 29 at the Hardware Club, in New York city. Creditors holding claims to the amount of $130,000 were represented. A statement prepared by Thomas McIlroy, Jr., the trustee of the company, was read, showing the liabilities to be $159,000, and the estimated value of the assets —less the probable expenses of liquidation—to be $56,600. L. K. McClymonds, in behalf of the New York Belting and Packing Co., Limited, offered to purchase all claims against the Peck company at 31 per cent. of their face value, to be paid in cash on receipt of an assignment thereof within thirty days from the date of the meeting, and resolution in favor of the acceptance of this offer was adopted unanimously.

INSULATED-WIRE INTERESTS.

"THE proposal to consolidate the rubber-insulated wire interests is being allowed to sleep just now," an INDIA RUBBER WORLD man was told who made some inquiries on the subject, "but the plan is certain to be carried through. It may be allowed to sleep until after the next yearly balance-sheets are made up, for balance-sheets, as everybody knows, talk better than anything else in matters of this kind. Consolidation is bound to come, however, in order to protect the best interests of the trade, and certain new competition that has shown itself of late will accentuate the conditions which have already led to a general determination on the part of the trade that a readjustment of some kind is necessary. A certain manufacturer of wire has established a rubber-insulating plant as a means of making more business for his wire-mill, even if no profit is earned on the rubber work, and this is liable to make competition in the insulation line even hotter than before."

TO MEASURE RUBBER BELTING.

TO THE EDITOR OF THE INDIA RUBBER WORLD: We also wish to know if you can give us the name of a manufacturer or builder of a machine for measuring belting as it comes from the belt presses. Our present system, which is a steel tape line, is not at all satisfactory, as we find our men are continually making mistakes, and if we can get a machine which will measure automatically, we intend to put one in. Do you know of such a machine? Kindly advise and oblige,

M. E. B.

New York, October 10, 1898.

RUBBER CULTURE IN MEXICO.

COFFEE AND INDIA-RUBBER CULTURE IN MEXICO. Preceded by Geographical and Statistical Notes on Mexico. By Matias Romero. New York: G. P. Putnam's Sons. 1898. [Cloth, Large 8vo. 417 pp. Price, $3.]

IT has been a quarter of a century since Señor Romero, now minister from Mexico to the United States, employed a brief vacation from the public service in planting coffee and India-rubber in the southern portion of his native republic. Convinced of the possibilities of profit from these products, he made a thorough study of the proper conditions for their cultivation, and wrote at considerable length on the subject, publishing treatises for general distribution, at his own expense. On resuming office, after a few years, Señor Romero was obliged to neglect his planting interests, and his promising young rubber-trees came to nothing. He has never lost faith, however, in the practicability of rubber-culture in Mexico, or an opportunity to attract favorable attention to the subject.

In a handsome volume which has lately appeared Señor Romero has compiled the various articles written by him several years ago on India-rubber and coffee, including two or three contributed to THE INDIA RUBBER WORLD in 1893, being careful to point out that considerable time has elapsed since the articles were first put together. He has been too busy of late to revise the articles, and particularly his estimates as to cost of cultivation and probable profits, but he has felt that it might be better to reprint his early treatises than to offer nothing at all in answer to numerous requests for information on the subjects referred to. The problems to be met in cultivating rubber, particularly, are the same to-day as in 1873. Having them pointed out, as Señor Romero has done, the intending planter will at least be better prepared to undertake his work.

The major part of this volume, however, does consist of new matter, and that of a useful and valuable character. The number of books containing recent and authentic information in regard to the large, rich, and progressive republic of Mexico is very limited, and Señor Romero has labored to be of service to his country by bringing together such a compendium of historic and descriptive matter as will help an outsider to decide whether or not to invest or make his home in Mexico, and also help him to understand such conditions of life as are peculiar to the country. So, while this book is not offered as a complete guide to the planting of India-rubber, it cannot fail to prove of value, in respect to the general information which it contains, to all who contemplate going to Mexico, and likewise of interest to a great many other people.

Señor Romero is a pleasing writer, and, in view of the interesting character of many of the chapters in this book, it may be suggested that a happier choice of a title might have been made than "Geographical and Statistical Notes."

THE Mexican Tropical Planters' Co. and the Mexican Gulf Agricultural Co.—operated under practically the same management from Kansas City, Mo.—send us handsomely-gotten-up pamphlets respecting the opportunities which they offer for the growing of coffee, rubber, and fruit, and incidentally giving some information of interest in regard to Mexico. The pamphlet sent by the second of the companies named, entitled "Dos Rios Souvenir, 1898," states that 300,000 rubber-trees (*Castilloa elastica*) have been planted on the company's lands and that their nurseries contain 500,000 more.

WOOD RIMS IN FRANCE.—It is reported that one of the best-known French pneumatic tires, the Michelin, is now delivered with wooden rims, with aluminum lining.

DISCOURAGED INVESTORS IN RUBBER.

THERE has been marked dissatisfaction within the ranks of the shareholders of India-rubber (Mexico), Limited, the big English company floated last year, almost from the first. Even before the legal transfer of the properties acquired by the company, some of the shareholders made an attempt to cancel their subscriptions, and each new development with regard to the character of the properties has added to their dissatisfaction. In addition to the circulars emanating from the dissatisfied shareholders, there has now appeared a statement signed by owners of properties adjoining the estates of India Rubber (Mexico), Limited, to the effect that all the claims in the prospectus of that corporation are misleading, with regard not only to India-rubber but also to the possibility of profitable cultivation of other crops on the same lands. They assert that all the rubber available on the native trees on the "Llano Juarez" estate would hardly pay the expense of gathering it, while the land fit for planting will not accommodate so many trees as the company have promised to set out. This statement does not go into details respecting the "Esmeralda" estate, but implies that a similar condition of affairs will be found there. The substance of the statement is that these properties, "Although a good proposition for a private individual, cannot, and never will, pay interest on the capital the India Rubber (Mexico), Limited, has been floated with, however worked." There are good rubber and coffee lands in Mexico, it is asserted, but they "begin where 'Llano Juarez' ends."

REMARKABLE TEST OF FIRE-HOSE.

THE city of Nashville, Tenn., in August, advertised for fire-hose under these unusually severe conditions: (1) Each length to be tested separately to 400 pounds; (2) in case of a single burst, the entire lot of hose to be rejected and $500 in cash forfeited. Usually tests of fire-hose are made on a small percentage of the length of hose, taken at random out of the lot. The test took place at Nashville on September 12, in the presence of a large number of spectators, the gage being inspected and approved by a professor of Vanderbilt University. The result was that, although several manufacturers were represented, the only lot of hose which stood the test was the widely-known "Test" fire-hose, manufactured by the New York Belting and Packing Co., Limited, New York. The company have received the following letter from the Nashville authorities:

GENTLEMEN: We are pleased to report that the 1450 feet of "Test" fire-hose, for which we gave you an order through your agents, Messrs. J. H. Fall & Co., of this city, on August 31 last, was received on Saturday the 10th inst.

On the 12th inst. we subjected each section of 50 feet to a separate pump-pressure test of 400 pounds to the square inch and in each case the sections stood the test and showed no evidence of breaking or giving away.

We were delighted with the result, and will have the hose put into service at once, you having complied with our specifications in every respect.

Respectfully,

BOARD OF PUBLIC WORKS AND AFFAIRS,
JOHN L. KENNEDY, Chairman.

Nashville, Tenn., September 16, 1898.

Twenty-nine sections of "Test" hose were tested separately up to 400 pounds without a burst or blow-off. It is understood that this hose was not made specially for the occasion, but taken directly from stock. In the case of some other makes of hose, the percentage of burst lengths was 25 to 50.

PAYING FOR THE BOSTON RUBBER SHOE CO.

APPLICATION was made to the New York Stock Exchange for the listing of the new issue of shares of the United States Rubber Co., in connection with the purchase of the Boston Rubber Shoe Co. Favorable action was taken October 26, as a matter of course, all the previous issues of the United States company having been listed. It is stated that the new issue consists of $4,125,000 in preferred and $3,500,000 in common shares, or a total of $7,625,000. The following statement shows the details of former issues, together with the total as it will stand with the new issue included:

	Preferred Stock.	Common Stock.	Total Capital.
December, 1892	$12,942,500	$13,481,100	$26,423,600
May, 1893	6,309,000	6,361,500	12,670,500
September, 1893	149,000	323,400	472,400
New issue	4,125,000	3,500,000	7,623,300
Total	$23,525,500	$23,666,000	$47,189,800

These securities are given to the stockholders of the Boston Rubber Shoe Co., in addition to $1,000,000 in cash reported to have been paid already, and pays for the whole plant and business—not good will merely. The figures that follow are introduced only as a matter of possible interest, to show the character of the calculations in which Wall street indulges, with regard to the new combination. The figures, of course, emanate from outside sources:

"The Boston Rubber Shoe Co. earns at the lowest $8,000,000 gross annually and at least $1,000,000 net. The cost of the property to the United States Rubber Co. is say 5 per cent. on $1,000,000 cash, or $50 000; 8 per cent. dividend on the preferred $330,040, a total of $380,040. This deducted from $1,000,000 net earnings leaves $619,960 surplus for the United States Rubber Co., of which the Boston Rubber Shoe people will get their dividends on the new common issued to them. Allowing 4 per cent. on the new rubber common issued to the Boston Rubber Shoe Co. and the profit to the United States company is still $480,000 annually by the acquisition and exchange of securities, or a little over 2 per cent. for all the rubber common, which will amount to $23,665,700."

At the regular meeting of the directors of the United States Rubber Co., on October 20, the Hon. E. S. Converse, president of the Boston Rubber Shoe Co., was elected to a vacancy in the board caused by the failure of Charles H. Dalton, of Boston, who was on the successful ticket voted at the last annual election, to qualify. The reason for the delay in the election of Mr. Converse was that it was found necessary to have certain resolutions passed by both the Boston Rubber Shoe Co. and the United States Rubber Co., in connection with the transfer of the latter, and there might have been some legal difficulty in the event of Mr. Converse belonging to both boards of directors at once.

TENNIS GOODS FOR 1899.

THE only respect in which the price-list of tennis, yachting, and gymnasium shoes, for sale by the United States Rubber Co., for 1899, differs from that for 1898, either in the articles catalogued or the quotations given, is with regard to their "Outing" shoe. This was first introduced in the season of 1897, speedily becoming popular. Its price undoubtedly had quite a good deal to do with that, because, while it is a strong, serviceable shoe, the retailer can sell it at a price attractive to people who are in search of inexpensive summer footwear. This is made of good strong duck in one section, the upper being all in one piece, with the exception of the toe-cap. Last year the "Outing" shoes were offered in "oxford" and "balmoral" styles, and in white, black, and brown duck. The new list includes only the "oxford" shape, and only black and brown duck. There is also a reduction in prices in "Outing" shoes, as shown below:

	1898.		1899.
SIZES.	Oxford.	Balmoral.	Oxford.
Men's'	.40	.55	.34
Boys'	.38	.53	.32
Youths'	.36	.51	.30
Women's	.38	.53	.32
Misses'	.36	.51	.30
Children's	.34	.49	.28

The other brands are "Yachting," "Gymnasium," "Defender" (tennis), "Champion" (tennis), and "Bathing" shoes. The sale of these goods, as hitherto, is in the hands of F. D. Balderston, special selling-agent, No. 43 Bedford street, Boston.

A BOOM IN RUBBER STOCKS.

THE unexceptionally heavy trading in United States Rubber stocks for a short time past appears to have been due to the manipulations of professional speculators. Indeed, it has been no secret in Wall street that a "pool" headed by James R. Keene, a professional "operator," acquired a considerable block of these shares, which were disposed of at prices which yielded them a very considerable profit. From the low figures which had prevailed from the beginning of the year, the quotations increased until, during August, 109¼ was obtained for preferred and 48½ for common, after which there was a steady decline. It is safe to assume that the management of the United States Rubber Co. have had no part in the circulation of such reports as have appeared in certain so-called financial newspapers, of which this is a specimen: "A dividend upon the common stock will probably be declared this fall or as soon as war is definitely settled. One would have been declared at the regular monthly meeting of the company to-day if the uncertainties of war had been entirely eliminated." Another report said: "The Converse people are again reported buyers of the stocks, this time of large amounts of the common, and they usually know what they are doing. The company has undoubtedly been benefitted by the war in the shape of supplying rubber blankets, etc." A firm of New York brokers circulated a report that the increase in the business of the United States Rubber Co. since the beginning of the current year pointed to earnings of $1,500,000 for the common stock. The speculators made much of the death of Mr. Banigan as removing an important factor in competition in rubber footwear, and the acquisition of the Boston Rubber Shoe Co. was "worked for all it was worth" by the "bull" element. The first effect, however, of the official report that the Boston company had been acquired was to depress prices of stocks, in view of the proposed issue of additional shares to pay the purchase price. The volume of trading has since diminished to something like the old-time figures, while recent quotations have been 38⅛ to 40 for common and 100 to 102 for preferred.

THIRTY-INCH WHEELS.—In an interview for *The Wheel*, R Phillip Gormully, of the firm manufacturing "Rambler" bicycles, was asked about the prospects for 30-inch wheels. His reply was:

"We have always made and catalogued them. Some riders need 30-inch wheels as much as they do number eight shoes."

"Will the percentage of 30-inch wheels be 20 per cent. in 1899?"

"Not 1 per cent."

RUBBER SCRAP AND RECLAIMED RUBBER.

SINCE the first of the present year prices of scrap rubber have ruled higher than for any similar length of time in the past, though the highest figure reached has been exceeded for brief periods in former years. For the first seven months in the year 4¼ cents was the prevailing price for old boots and shoes, in carload lots, the variation from this figure being scarcely more than ¼ cent in any month and not above ⅜ cent for the entire seven months. Following the period of steady prices, came a rising market, culminating in transactions at 5¾ cents during the first part of last month, while some lots were held at figures a trifle higher. Since then a decline has been in progress, and the condition of the market is one in which consumers have the upper hand. It has been pointed out that it is quite unusual for prices to decline early in October after having held up very strong during the spring and summer months. Last year the turning point in the trade was not reached until late in November, when the highest point for that season—5.30 cents—was reached. The spring and early summer market last year was likewise steady, averaging about ¼ cent less than the prices ruling this year, declining to 4 cents in May. It was to be expected, in the usual order of things, that scrap rubber should be higher this year than last, because its tendency, year by year, has been upward for so long a time that no hope is entertained that a 3-cent market will be seen again. There is a disposition in certain quarters to attribute the higher prices of this year in part to the burning of the reclaiming plant of the United States Rubber Co. at Naugatuck, Conn., early in February. Not only were the visible supplies of scrap rubber reduced by the destruction of a quantity which has been estimated by outsiders at 2000 to 3000 tons, but the necessity which existed for the United States Rubber Co. to place orders with outside reclaiming-plants stimulated some of the latter to increased activity, necessitating the freer buying of scrap on their part. The price of scrap has not become so high, however, as to encourage the importation of foreign rubbers on a larger scale than usual. On account of the less desirable quality of foreign stock, the price of domestic stock would have to advance a good deal yet to reconcile consumers here to substitute the former. In addition to quality is to be considered the evenness of grading, which is not equal in the imported to the home collections.

The export of reclaimed rubber, however, is on the increase. During twelve months ending September 30 last the amount of this material exported from the port of New York was 953,903 pounds, of the declared value of $96,777. From certain calculations made at the New York custom-house, it appears that the exports from here amount to about 37½ per cent. of the total shipments from the United States. The rubber factories of Canada are liberal importers of crude rubber from the United States—generally through other ports than New York. The shipments from New York during September were larger than for any month within a year, aggregating 166,429 pounds, against 22,411 pounds in September, 1897.

RUBBER AT THE CARRIAGE CONVENTION.

AT the twenty-sixth annual convention of the Carriage Builders' National Association, held this year at St. Louis, the exhibition of carriages and carriage-parts was even more extensive than at any time in the past. As a matter of particular interest, the exhibits of rubber carriage-accessories was both more varied, and represented a larger number of firms than hitherto. The list of rubber exhibits and exhibitors which follows is compiled from the very full reports published in *Carriage Monthly Daily*;

Hartford Rubber Works Co. (Hartford, Conn.).—Single-tube pneumatic carriage-tires.

The Newton Rubber Works (Upper Newton Falls, Mass.).—Sectional rubber carriage-tires (described in THE INDIA RUBBER WORLD of August 1).

The Rubber Tire Wheel Co. (Springfield, Ohio).—Solid rubber tires mounted on vehicle-wheels in great variety.

The Victor Rubber Tire Co. (Springfield, Ohio).—Solid rubber tire, from their own plant, recently erected at Enon, Ohio.

The Diamond Rubber Co. (Akron, Ohio).—Pneumatic and solid rubber vehicle-tires. They are equipped to make any size of tires from the smallest to 5 inches, and for 28-inch to 50-inch wheels.

The Goodyear Tire and Rubber Co. (Akron, Ohio).—This new concern exhibited patented and plain wheels, all with solid rubber tires.

Morgan & Wright (Chicago).—Solid rubber tires. They furnish tires complete, rubber channels, tools, and fastenings.

The Premier Manufacturing Co. (Hartford, Conn.).—Their specialty is a tubular gear, in connection with which they have taken up finished carriage work, including pneumatic tires.

The Clark Cycle Tire Co. (Boston).—The "Corker" pneumatic tire, offered as puncture proof.

The American Rubber Tire Co. (New York).—Solid and pneumatic rubber vehicle-tires.

The Meeker Manufacturing Co. (Dayton, Ohio).—Carriage equipped with solid rubber tires.

L. C. Chase & Co. (Boston).—Rubber ducks and drills and body cloths and head-linings.

The National India Rubber Co. (Bristol, R. I.).—Twelve different grades of rubber cloth, for carriage work.

The Fairfield Rubber Co. (Fairfield, Conn.).—A fine display of rubber cloth and finished cushions.

Several of the tire concerns mentioned above were exhibitors at this convention for the first time, having only recently taken up the manufacture of vehicle-tires. There were also exhibited many carriages, from different factories, equipped with rubber tires.

Following the date of the convention at St. Louis, most of the exhibits were removed to New York and displayed for a few days at the Grand Central Palace, on Lexington avenue. Prominent among the exhibits shown here were the Pope motor tires of the Hartford Rubber Works Co.; the Fairfield Rubber Co.; the "Victor" carriage tire: the Whitman & Barnes Manufacturing Co.'s rubber horse-shoe pads; the display of the Newton Rubber Works, in charge of Frank Hall; that of the Boston Artificial Leather Co., in charge of W. N. Dole; the "Pantasote" exhibit; and Clark's "Corker" tire. Mr. William J. Cable, of the Cable Rubber Co., was present, though without making an exhibit of his company's carriage cloths.

WHAT "KERATOL" IS LIKE.

THE manager of the Keratol Company thus describes this new waterproofing substance:

Keratol has nothing of the nature of rubber nor is it gummy, but it may interest your readers as a peculiar waterproof preparation, entirely different from anything used in the rubber trade. Keratol is a colorless transparent jelly or solution (as desired)and when applied to a calico, cretonne or printed fabric it renders it waterproof and prevents crocking or fading,

and yet the pattern or design underneath the coating, appears brighter and more distinct than before the jelly was applied. It also strengthens the fabric, and stains or dirt can be washed off. Articles so treated are weatherproof and will not rot or crack. The applications principally developed to date is a line of artificial leather and what is called Keratol Silk. Keratol leather is made in all weights, from a gossamer fabric to a substitute for cow hides. Owing to high cost this product will probably not compete with rubber, but in time should displace some kinds of leather. Every yard now used takes the place of 9 feet of leather, it does not compete with anything but leather. The name is adapted from the Greek word Keros, which may be translated horn-like, as the surfaces of articles treated with Keratol have a horn-like surface.

EASTERN RUBBER JOBBERS IN LINE.

AT a meeting of New England rubber-shoe jobbers, held in Boston early in October, to discuss the desirability of some such organization for their mutual benefit as was formed recently in the Chicago district, a committee of nine were appointed to formulate a plan to be submitted later for the approval of the trade. This movement followed a visit to the east of a committee from the Wholesale Rubber Boot and Shoe Dealers' Association of the West.

One jobber who attended the Boston meeting said later that he had mentioned the subject to several retail dealers and they had invariably indorsed the plan and promised their co-operation. They would be glad, he said, of any arrangement which would settle the present uncertainty, as one never felt sure when he gave his orders for rubbers that his competitors were not buying of some other jobber at lower prices than those which he was compelled to pay. With such an understanding as is proposed, this could not happen and every retail dealer would be on the same footing as regards his supplies of rubber boots and shoes. It is not intended, he said, to form a trust or to squeeze the consumer. The consumer's interests are those of the jobbers, and he will pay no more and no less for his goods than before should we have the good fortune to agree upon some such plan as is proposed.

A NEW RUBBER SHOE FACTORY.

ON the heels of the report of the purchase of the Boston Rubber Shoe Co. by the United States Rubber Co. comes the news that Mr. A. D. Warner, Supt. of the Goodyear's Metallic Rubber Shoe Co. of Naugatuck, Conn., has severed his connection with that company, to become the superintendent and general manager of a rival concern situated at Beacon Falls, a small manufacturing village about a mile below Naugatuck. Mr. Warner has as associates, Mr. J. H. and Mr. Harris Whittemore, who are residents of Naugatuck, with large business interests in Waterbury, Naugatuck, and Bridgeport. These men have long been interested in the progress of the rubber-shoe business, and it was rumored that when E. A. Saunders was connected with the United States Rubber Co. they made him a very flattering offer to join them in a rubber shoe enterprise. Mr. Warner is counted one of the ablest rubber shoe superintendents in the United States. He has been in the business since he was a boy, and has had practical experience in every part of the business. It is expected that the factory will be in operation early in the spring, and will start with a force of two or three hundred hands. A prominent rubber-shoe man, however, predicts that their output will soon be 15,000 pairs per day.

END OF THE 5-PER-CENT. DISCOUNT.

OCTOBER 31 was the last day on which, under the contracts of any of the rubber-shoe manufacturing companies, advantage could be taken of the extra 5-per-cent. discount allowed for the early placing of orders. In the case of some of the companies the privilege expired even earlier, but under the contracts of the Boston Rubber Shoe Co. jobbers were allowed to claim the extra discount until October 15 and retailers buying from them until the last day of the month. During the rest of the season retailers will be allowed 25 per cent. discount from list prices on first-grade goods and 25 and 10 on seconds. The experiment of offering an extra discount to encourage the placing of orders for rubbers in summer has been so thoroughly tested that it would seem that the manufacturers should now be able to make up their minds definitely whether or not to adopt this as a permanent policy. It will be interesting, therefore, to note next spring whether or not the extra discount is provided for in their contracts.

THE TIRE ASSOCIATION GUARANTEE.

AT the meeting of the Rubber Tire Association, held on Oct. 6th, in New York city, the association guarantee for 1898 was re-enacted for 1899, no change whatever being made except in the date. The full text of the guarantee is as follows:

"We agree with the purchaser of each tire, to make good by repair or replacement, at our option, when delivered to us transportation prepaid, any imperfection or defect in material or manufacture of such tire; provided that all such imperfect or defective tires shall be referred to us before any claim for repair or replacement shall be allowed.

"This guarantee does not include the free repair of punctures or other injuries.

"This guarantee expires on Deccember 31st, 1899.

"This agreement does not apply to tires into which any so-called anti-leak preparation has been introduced."

A SUBSTITUTE FOR VULCANITE.

A GERMAN inventor proposes to make an ebonite substitute with the help of copal, mixed with vegetable fiber, fused and highly compressed. As yet, experiments with copal have failed, because the pieces of this rosin differ strongly in hardness and fusibility. The products were either heterogeneous, when the temperature had not been raised high enough, or some of the substance became oxidised, brittle, and would not take a polish. Success appears in this, as in many other instances, to have been obtained by working with most intimate mixtures. The copal is sorted in the ordinary way, and the different sorts are dissolved separately. The solutions are now well mixed, and a little asphalt is added. The fiber can be admixed in the wet state, or after having evaporated and ground the copal. In either case the materials are ground and fused in special molds, under high pressure, which is not released before the mixture has quite cooled down. The resulting material resembles ebonite or horn; its hardness depends upon the pressure applied. When carefully heated, the substance softens sufficiently to be pressed into molds, and to be bent and bored for making mouthpieces, etc.

RUBBER INDUSTRY IN ITALY.—The British consul at Milan, Italy, reports that the firm of Pirelli & Co., rubber manufacturers in that city, have $1,100,000 capital invested and employ regularly more than 1500 hands.

TRADE AND PERSONAL NOTES.

IN keeping with the spirit of patriotism that has taken possession of the land is the manly soldier figure in full uniform and wearing a pair of hip boots in place of the regulation leggings. The figure is cut out of cardboard, is printed in colors and the boots bear the stamp of the Hood Rubber Co.

=Latta & Mulconroy, Philadelphia, inform THE INDIA RUBBER WORLD that they have received from the New England Sanitary Product Co., of Boston, an order for $3000 worth of belting, adding that "an out of town order is worth being announced."

=A new rubber store has been opened in Stoughton, Mass., by J. S. Capen.

=The American Rubber Tire Co. (New York), selling-agents for the vehicle-tires of the Hartford Rubber-Works Co., have established an agency at Honolulu, in charge of G. Schuman.

=The new owners of the Bowmanville (Ont.) rubber works have become organized as the Durham Rubber Co. Among those interested is James Young, some time of the Toronto Rubber Shoe Manufacturing Co. The new company have applied to the town of Bowmanville for a continuation of the grant of $6000 made to the old company.

=The Philadelphia Commercial Museum has received from Singapore some very fine samples of Gutta-percha, to which they invite the attention of manufacturers and others who may feel interested.

=Negotiations are in progress looking to the removal of the Harvard Rubber Co., manufacturers of mackintoshes, from Stoughton, Mass., to Milford, Mass. The board of trade of the latter place are attempting to raise the money needed for the expenses of removal

=James W. Cross, Fall River, Mass., whose rubber shoe-heels described lately in THE INDIA RUBBER WORLD, is understood to have an extensive trade in these articles. Although there are several different rubber heels in the market, Mr. Cross is the only rubber-man, thus far, who is interested in their manufacture.

=The directors of the United States Rubber Co., at a meeting held on October 6, declared a quarterly dividend of 2 per cent. on the preferred stock of the company, from the net earnings for the fiscal year beginning April 1, 1898, to stockholders of record on October 15, payable October 31. The by-laws, as amended at the last annual meeting of the company, provide that dividends shall be declared at meetings of the directors held on the first Thursdays in January, April, July, and October, whereas the original provision was for the declaring of semi-annual dividends in January and July. The operation of the new by-law dates from the first Thursday in July, 1898, when a 2-per-cent. dividend was declared out of the earnings of the preceding year, to complete 8 per cent. on the preferred shares for that year's business.

=The Easthampton Rubber Thread Co. (Easthampton, Mass.) have lately increased their working force and resumed working full time.

=The Rubber Carriage Tire Co. have been incorporated at Trenton, N. J., by Arthur C. Schiller, George W. Carnich, and Edgar Park, with $200,000 capital.

=The Byfield Rubber Co. (Bristol, R. I.) were lately turning out 2500 pairs of shoes per day, and were fitting up a new department for arctics.

=The Plymouth Rubber Co. (Stoughton, Mass.) have purchased additional land adjoining the site of their factory, which was burned recently and is being rebuilt.

=The town of Hull, Ont., several months ago, voted a bonus to influence the location at that place of the factory of the Toronto Rubber Shoe Manufacturing Co. The Hull council have now voted to bring a suit for damages against the company for failing to establish a factory there, while the company talk of a counter-suit on account of the failure of the town to carry out its part of the agreement.

=The Goodyear Vulcanite Co. have put electric lights into their factory at Morrisville, Pa.

=The La Crosse Rubber Mills Co. (La Crosse, Wis.) are reported to be unable to keep up with their orders, though running full time. When last heard from they were contemplating running ten hours a day.

=The Lapworth elastic fabrics factory, at Milford, Mass., is reported to be turning out 50,000 yards of webbing per week.

=The Monarch Rubber Co. (St. Louis, Mo.) recently filled an order for 135 mackintoshes and 5 cases of Hood rubber boots, to be shipped to Santiago de Cuba. They believe this to be the first bill of American rubber goods going to Cuba under new conditions.

=The threatened contest of the will of the late Joseph Banigan, whose estate has been estimated as high as $12,000,000, has been prevented by a compromise, allowing the will to be probated as drawn. The terms of the settlement made with the widow are not made public. By the terms of the will no inventory is to be taken of the estate.

=The manufacture of rubber ponchos under government contracts did not end with the cessation of hostilities. A month afterwards the Monarch Rubber Co. (Campello, Mass.) were busy finishing an order which brought their total up to nearly 100,000 ponchos on government account.

=The Massachusetts Rubber Co., formerly of Long Branch, N. J., were lately reported to be located at No. 615 Madison avenue, Asbury Park. The same concern lately conducted a "sacrifice" sale of mackintoshes at No. 853 Broadway, New York, which they advertised extensively in the newspapers as being due to the fact that they had been "forced out of the trust." Their advertisements were headed: "Office of the Massachusetts Rubber Co., Factory, Boston, Mass." and signed "R. J. Wiley, president."

=George H. Quincy, connected hitherto with The L. Candee & Co., has become selling-agent for the Providence Rubber Shoe Co. (Providence, R. I.), with headquarters at No. 285 Devonshire street, Boston.

=The Victor Rubber Tire Co. (Springfield, Ohio), whose reorganization was reported in THE INDIA RUBBERR WORLD of April 1, have about completed a large plant at Victoria, near Springfield, for the manufacture of their solid rubber vehicle-tires. The president and treasurer, John S. Harshman, is a reputed millionaire, with large interests in other industrial undertakings in the same state.

=The tire department of the National India Rubber Co. (Bristol, R. I.) resumed work for the season early in October, with a prospect of orders enough to run up the daily production soon to 1000 pairs.

=The United States Rubber Company will not hold any public auction this season.

=The Maynard Shoe Co. (Claremont, N. H.), who are doing an extensive business in the manufacture of rubber shoe-soles, have lately completed a new building for their rubber plant.

=It is reported that, in view of the resumption of work in reclaiming rubber at Naugatuck, by the United States Rubber Co., the reclaiming plant at Millville, Mass., will be closed. It is claimed that Naugatuck has an advantage in respect to transportation, on both rubber scrap and the reclaimed rubber.

=The Goodyear Tire and Rubber Co., incorporated late in August, have purchased the plant of the Akron (Ohio) Woolen and Felt Co., and expect to be at work making tires during the current month.

=H. C. de Rivera (No. 80 Broad street, New York) has added the Manhattan Rubber Manufacturing Co. to his list of representatives for the local export trade.

=J. S. Capen has opened a rubber-shoe store on Pleasant street, Stoughton, Mass.

=The Canadian Rubber Co. (Montreal) have enlarged their offices at the factory and introduced an improved system of lighting.

=Costello C. Converse has been elected president of the Revere Rubber Co. in place of Mr. F. W. Pitcher, who resigned the office to better enable him to serve the Easthampton Rubber Thread Co., of which company he is general manager, in place of Mr. E. Thomas Sawyer, deceased.

=The new extra heavy soled arctic recently put out by the Candee Company is reported to have an excellent sale.

=The different rubber footwear factories of the United States Rubber Co. are running very full tickets. The American, Wales-Goodyear and Candee factories are running full-handed, and putting out an unusually large product. The Woonsocket boot factory is running an unusually large ticket, and the big "Alice" mill is also well provided with orders.

=The rubber factories of Akron, Ohio, are all busy, with a good outlook for the future. The growing manufacture of vehicle-tires has been a good thing for them. Two concerns are now at work on these, and a third soon will be. The bicycle-tire manufacture is also an important feature in the Akron trade.

=Mr. Arthur F. Townsend, vice-president of the Manhattan Rubber Manufacturing Co. (New York), has been absent for a month on a vacation trip which led him first to Panama, whence he intended going down the Pacific coast as far as Lima, or beyond. While primarily a pleasure trip, it will be surprising if, with his accustomed enterprise, Mr. Townsend does not turn it to good account in a business way.

=The Joseph Stokes Rubber Co. (Trenton) have started up their new machinery for the manufacture of cotton hose and are turning out excellent samples.

=Allan Magowan has erected a small plant in Trenton, N. J., and expects soon to be manufacturing rubber goods. Mr. Magowan learned the rubber business at the factory of the Boston Car Spring Co., and later was for many years superintendent of the Trenton Rubber Co. He is a good manufacturer and withal a man of strict integrity and the good wishes of the trade are with him.

=The Byfield Rubber Co. have taken five new offices in the Fuller Building, Providence. The factory in Bristol is still busy, the total running up to 3000 pairs of shoes a day.

=Major J. Orton Kerbey, who has given considerable study to the subject of rubber production, is of the opinion that rubber will grow in Cuba. He expects shortly to leave for Peru to complete negotiations for rubber forests on the Upper Amazon for an English syndicate. He plans to stop at Cuba and Porto Rico en route to study the conditions for rubber culture there.

=The Byfield Rubber Co. (Providence, R. I.) are now employing 246 men and working until 9 o'clock at night.

=Mr. E. I. Aldrich, selling agent of the Hood Rubber Co., has been reëlected a member of the Boston School Board.

=The Hartford Rubber Works Co. (Hartford, Conn.) are out with a very handsome diamond mat, which embodies a distinctively new feature. This is a bevelled edge, the advantage of which is so obvious that it will need no description.

=Mr. W. N. Lockwood, treasurer of the Davidson Rubber Co. (Boston), who has been very ill with typhoid fever at his home in Concord, Mass., is now rapidly convalescing; news that will be received with exceeding gratification by his many friends in the rubber trade.

=Mr. George W. Blowers has been secured as superintendent of the Durham Rubber Co., Bowmanville, Ont.

=The Boston Gossamer Rubber Co. (Hyde Park, Mass.) has such large orders on mackintoshes that it will take them until the first of December, running steadily, to catch up.

=Mr. J. T. Robinson, of the Monarch Rubber Co., Brockton, who has been quite ill the result of overwork, is rapidly convalescing.

=Mr. B. F. Taft, vice-president and treasurer of the Rubber Manufacturers Mutual Insurance Co. (Boston), is back from a vacation trip which took him as far as Denver.

=Morss & Whyte (Cambridge, Mass.) are very busy on large government contracts for insulated wire.

=The Plymouth Rubber Co. (Stoughton, Mass.) have completed their new plant, which is far superior to that destroyed by fire, and are running it on full time.

=The sales of combination wool and rubber boots by the Mishawaka Woolen Manufacturing Co. (Mishawaka, Ind.), from January to October 1, 1898, were more than 40 per cent. larger than in the same months of the preceding year.

=The name of George A. Lewis, at present a director in the United States Rubber Co., is connected in some rumors with the new rubber-shoe factory now being organised at Beacon Falls, near Naugatuck, Conn. There has been, to say the least, a good deal of reticence as to who are to be interested in the new enterprise.

=Under the style Etablissments Hutchinson (Compagnie Nationale de Caoutchoue Souple) a company has been formed in Paris to take over the rubber manufacturing and selling business of Hutchinson & Co., carried on in Paris, Langlée, Mannheim, and London, together with their interest in the mackintosh factory of Schwalenberg & Co. The nominal capital of the company is $1,000,000, and the purchase price is reported at $800,000. The business was founded in Paris by A. Hutchinson, an American who had gone to Europe to sell rubber shoes manufactured in this country.

=East Setauket, L. I., was nearly destroyed, on October 25, by a fire which started in an unused factory of the Empire State Rubber Co. The loss has been estimated at $90,000.

CHARACTERISTIC THOUGHTFULNESS.

BEFORE the public were sure of the sale of the Boston Rubber Shoe Co., and while rumors were everywhere rife that such sale would soon be effected, it came to the ears of E. S. Converse that many of his jobbers were a bit anxious about the matter. He therefore wrote a personal letter to each one, stating the actual facts and saying further that he was confident that the buying, selling, and in fact, the management of the Boston Rubber Shoe Co., would continue in the same hands, and the policy be the same as in the past, a course that was most grateful to the jobbers and was fully appreciated,

SALE OF THE PALMER TIRE PATENTS.

THE Palmer tire patents for the United States and the sole right to manufacture the Palmer tires in this country have been bought by the The B. F. Goodrich Co. (Akron, Ohio.) The tires will be sold hereafter direct by the Goodrich company, the Palmer Pneumatic Tire Co. ceasing to be a factor in the trade. This transaction in no wise affects the interests of the Canadian and English companies manufacturing Palmer tires, both of which, as well as the American company, have been highly successful. John F. Palmer, the patentee of these tires, has an interest in the Canadian company, and may give some attention hereafter to the trade in the Dominion, but the reason given for his selling out is that he wishes, after several years hard work, to enjoy a rest. The Goodrich company have been identified from the outset with the manufacture of Palmer tires; in fact, have been the sole manufacturers. For several years the Palmer tires were marketed exclusively through the Columbia Rubber Works Co., selling-agents in New York for the Goodrich company, but as this plan had some disadvantages, a new policy was inaugurated at the beginning of 1897, under which the Palmer company sold their own tires. By the latest move, which places ownership, manufacture, and sales under a single management, it is hoped by those interested that the Palmer tires, always popular, will become a more important feature of the trade than ever. Many reports are current in regard to the price paid for the Palmer patents and manufacturing rights, some naming $400,000 as the sum, but no authentic statement on the subject has been made.

THE TIRE-STRIPPING FRAUD.

NOTHING has put so much of a premium on thorough acquaintance with bicycles as the auction-rooms, the "special sales" and the "bargains" of the jobbing stores. One of the chief sources of profit for cut-rate dealers is in "stripping" high-grade tires, saddles, pedals, and other accessories, and replacing them with cheaper products, while holding the others for sale at cut prices. This is an evil that it is impossible to correct and no one who is ignorant of bicycle accessories can protect himself against it. When it is known that there is $5 or $6 difference between the cost of the best tires and inferior ones, it can be readily appreciated how much "stripping" enables unscrupulous dealers to cut prices and yet make a respectable profit at both ends of the deal.

NOT A RUBBER-MAN.—The Hon. Gum Coates, a rising statesman who hopes to adorn the Tennessee senate, is said to be a foe of trusts in general and of the rubber trust in particular.—*New York Sun.*

REVIEW OF THE INDIA-RUBBER MARKET.

THE decline in prices of crude rubber, noted in our last issue as having begun, has continued during the month. The increased receipts of Pará sorts, as compared with last year, everything else being equal, are alone sufficient to have caused a drop in quotations. It might have been expected, however, that the natural effect of larger receipts would have been offset somewhat by more liberal buying on the part of consumers, on account of their being, for the most part, poorly supplied with stocks. It seems, though, that manufacturers are still disposed to limit purchases to their immediate requirements, doubtless feeling encouraged by the decline in prices already apparent to hope that it will continue much farther in the same direction. Despite the lower prices, however, the conditions of the market during the greater part of the month have been firm. There were occasional recoveries during the month of a part of the decline, but at no time a return to the figures prevailing at the date of our last review.

The latest quotations in the New York market are:

PARÁ.	
Islands, fine, new	.90 @91
Islands, fine, old	none here
Islands, coarse, new	.63 @64
Islands, coarse, old	none here
Upriver, fine, new	.94 @95
Upriver, fine, old	.96 @97
Upriver, coarse, new	.84 @85
Upriver, coarse, old	none here
Caucho (Peruvian) sheet	64 @64½
Caucho (Peruvian) strip	66 @66½
Caucho (Peruvian) ball	74 @75
CENTRALS.	
Esmeralda, sausage	.70
Guayaquil, strip	.60
Nicaragua, scrap	.69 @70
Mangabeira, sheet	.54
AFRICAN.	
Tongues	.61 @62
Sierra Leone	none here
Benguella	.65 @66
Congo ball	@62
Cameroon ball	.62½@63
Flake and lumps	.41 @42
Accra flake	.30 @31
Accra buttons	.63½@64
Accra strips	.65 @66
Lagos buttons	.62 @62½
Lagos strips	.62 @63
Liberian flake	@
Madagascar, pinky	.84 @85
Madagascar, black	none here
EAST INDIAN.	
Assam	.80
Borneo	.40 @54
GUTTA-PERCHA.	
Fine grade	1.50
Medium	1.30
Hard white	1.00
Lower sorts	50
Balata	

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine	8$300	Upriver, fine	9$500
Islands, coarse	4$900	Upriver, coarse	7$400

Exchange 8 1/16*d.*

NEW YORK RUBBER PRICES FOR JULY.

	1898.	1897.	1896.
Upriver fine	98 @ 1.05	84 @ 86	86 @ 88
Upriver coarse	80 @ 88	55 @ 56	56 @ 58
Islands fine	95½ @ 1.02	82 @ 84	81 @ 85
Islands coarse	64½ @ 68	46½ @ 48	43 @ 47
Cametá coarse	71 @ 75	56 @ 58	50 @ 52

NEW YORK RUBBER PRICES FOR AUGUST.

	1898.	1897.	1896.
Upriver fine	1.03 @ 1.06	86½ @ 88	82 @ 86
Upriver coarse	86 @ 89	57 @ 60	54 @ 57
Islands fine	1.00 @ 1.03	84 @ 86⅛	77 @ 81
Islands coarse	68 @ 72	49 @ 50	41½ @ 44
Cametá coarse	74 @ 75	56 @ 58	51 @ 52

NEW YORK RUBBER PRICES FOR SEPTEMBER.

	1898.	1897.
Upriver fine	96 @ 1.03	87 @ 88
Upriver coarse	82 @ 87	59 @ 61
Islands fine	93 @ 96	85 @ 86
Islands coarse	63 @ 68	50 @ 51
Cameta coarse	68 @ 74	55 @ 56½

In regard to the financial situation, Albert B. Beers (No. 58 William street, New York), advises us as follows:

"During October there has been a fair demand for commercial paper at moderate rates, the best rubber names ruling at 4@4½%, and others not so well known, 5@6%. There has been no other feature of special interest to note.

STATISTICS OF PARA RUBBER.

FOLLOWING is the statistical position of Pará rubber in the principal markets of the world, including a comparison of three years. The figures denoting tons of 1000 kilograms (=2204 pounds):

	NEW YORK. Fine and Medium.	Coarse.	Total. 1898.	Total. 1897.	Total. 1896.
Stock, August 31	77	11 =	88	216	276
Arrivals, September	299	108 =	407	975	721
Aggregating	376	119 =	495	1191	1007
Deliveries, September	259	108 =	367	834	690
Stock, September 30	117	11 =	128	357	317

	PARÁ. 1898.	1897.	1896.	ENGLAND. 1898.	1897.	1896.
Stock, August 31	350	340	170	480	630	995
Arrivals, September	1750	1660	1680	725	330	710
Aggregating	2100	2000	1850	1205	960	1705
Deliveries, September	1665	1505	1675	460	460	975
Stock, Sept. 30	435	495	175	745	500	730

	1898.	1897.	1896.
World's supply, Sept. 30 (excluding Caucho)	2227	2000	2157
Pará receipts, July 1 to September 30	4260	3770	3720
Afloat from Pará, September 30	919	....	....

ANTWERP RUBBER STATISTICS.

[*The figures represent weights in Kilograms.*]

	1898.	1897.	1896.	1895.	1894.
Stocks, August 31	144,526	157,278	57,300	82,465	45,085
Arrivals, September	192,531	251,315	137,648	42,364	54,082
Total	337,057	408,593	194,948	124,829	99,167
Sales in September	110,183	151,244	139,790	44,551	25,685
Stocks, September 30	226,874	257,349	55,158	80,278	73,482
Arrivals since Jan. 1	1,415,479	1,315,785	639,762	341,619	181,918
Sales since Jan. 1	1,283,068	1,198,064	673,458	300,773	116,625

IMPORTS FROM PARA AT NEW YORK.

October 8.—By the steamer *Benedict*, from Pará:

Importers.	Fine.	Medium.	Coarse.	Caucho.	Total
Crude Rubber Co.	45,500	13,400	8,100	=	67,000
Reimers & Meyer	33,200	2,800	22,800	=	58,800
New York Commercial Co.	32,500	9,000	9,200	2,000 =	52,700
Boston Rubber Shoe Co.	10,400	2,100	....	25,700 =	38,200
Otto G. Mayer & Co	15,900	5,600	9,400	=	30,900
Shipton Green	18,900	1,800	8,600	=	29,300
Albert T. Morse & Co.	....	2,600	14,500	=	17,100
Total	156,400	37,300	72,600	27,700 =	294,000

October 17.—By the steamer *Cametense*, from Manáos and Pará:

Boston Rubber Shoe Co.	42,100	4,700	9,000	10,100 =	65,900
Reimers & Meyer	32,900	3,500	29,400	=	65,800
Crude Rubber Co.	35,700	5,400	11,600	=	52,700
Albert T. Morse & Co.	17,100	8,600	13,900	5,800 =	45,400
Shipton Green	27,800	3,200	10,800	=	41,800
New York Commercial Co.	18,200	6,100	9,900	=	34,200
Otto G. Mayer & Co	11,800	700	22,200	=	34,700
Peerless Rubber Mfg. Co.	....	....	13,200	=	13,200
Kunhardt & Co.	8,600	4,200	....	=	12,800
George G. Cowl	6,700	1,100	1,600	=	9,400
Hagemeyer & Brunn	4,700	....	3,000	=	7,700
G. Amsinck & Co.	4,300	1,100	500	=	5,900
Total	209,900	38,600	125,100	15,900 =	389,500

October 26.—By the steamer *Lisbonense*, from Pará:

Reimers & Meyer	58,900	12,500	53,100	=	124,500
Crude Rubber Co.	41,100	4,300	6,600	=	52,000
New York Commercial Co.	33,200	5,800	10,700	400 =	50,100
Albert T. Morse & Co.	26,200	2,200	22,800	=	51,200
Boston Rubber Shoe Co.	35,000	3,200	5,400	4,000 =	47,600
Otto G. Mayer & Co.	8,100	1,500	13,700	=	23,300
William Wright & Co.	....	....	48,800	....	48,800
Total	202,500	29,500	117,100	4,400 =	353,500

PARA RUBBER VIA EUROPE.

	POUNDS.	
OCT. 5.—By the *Majestic*=Liverpool:		
Albert T. Morse & Co. (Fine)	22,000	
OCT. 14.—By the *Germanic*=Liverpool:		
Albert T. Morse & Co. (Coarse)	10,000	
OCT. 17.—By the *Umbria*=Liverpool:		
Reimers & Meyer (Coarse)	40,000	
OCT. 21.—By the *Lucania*=Liverpool:		
Reimers & Meyer (Coarse)	20,000	
Albert T. Morse & Co. (Coarse)	8,000	28,000
OCT. 24.—By the *La Normandie*=Havre:		
Albert T. Morse & Co. (Coarse)	7,500	

OTHER ARRIVALS AT NEW YORK.

CENTRALS.

	POUNDS.	
SEPT. 26.—By the *Olivedene*=Belize, etc:		
Eggers & Heinlein	3,000	
K. Mandell & Co	700	
W. R. Grace & Co	300	
A. Lehman & Co.	300	
James Gibson, London	300	4,600
SEPT. 27.—By the *Marquette*=London:		
Isaac Brandon & Bros		7,000
SEPT. 27.—By the *Hevelius*=Bahia:		
New York Commercial Co.	1,200	
Allerton D. Hitch	3,000	4,200
SEPT. 27.—By the *Altai*=Greytown:		
G. Amsinck & Co	12,100	
A. P. Strout	10,000	
Andreas & Co.	4,000	
George Dreyfuss, Paris	4,000	
A. N. Rotholz	1,000	31,100
SEPT. 29.—By the *Pennland*=Southampton:		
Isaac Brandon & Bros.		7,200
SEPT. 30.—By the *Livorno*=Santos:		
Winchester Lawrence & Co.		2,200
SEPT. 30.—By the *Dorset*=Mexico:		
Flint, Eddy & Co	1,000	
H. Marquardt & Co	1,000	
L. N. Cheunolin & Co.	500	
E. N. Tibbals	300	
Whitman & Barnes Mfg. Co.	300	3,100
SEPT. 30.—By the *Excelsior*=New Orleans:		
Albert T. Morse & Co		13,500
OCT. 1.—By the *Advance*=Colon:		
A. P. Strout	8,108	
Flint, Eddy & Co.	7,092	
I. Brandon & Bros.	7,014	
G. Amsinck & Co.	6,088	
R. F. Cornwell	3,643	
Crude Rubber Co.	3,553	
D. A. DeLima & Co.	3,190	
Lanman & Kemp	3,059	
Kunhardt & Co	2,585	
H. W. Peabody & Co.	2,239	
Eimenhorst & Co	1,868	
H. Marquardt & Co.	1,516	
A. M. Capen Sons	1,177	
Jose Agostini	1,027	
J. Aparicio & Co.	1,162	
A. D. Straus & Co	1,000	
Eggers & Heinlein	847	
Mosle Brothers	839	
Ellinger Brothers	830	
Hirzel, Feltman & Co.	718	
J. B Sageman	450	
Salein Elias	134	57,838
OCT. 1.—By the *Etruria*=Liverpool:		
Wm. D Morton		3,400
OCT. 4.—By the *Alene*=Cartagena:		
Kunhardt & Co	4,000	
G. Amsinck & Co	4,000	
Flint, Eddy & Co	3,000	
Park, Sons & Co.	1,200	
Mecke & Co	300	12,500
OCT. 4.—By the *Kaffir Prince*=Santos:		
G. Amsinck & Co		700
OCT. 11.—By the *Jason*=Cape Gracias:		
Eggers & Heinlein	13,000	
F. Halberstadt & Co.	1,000	
James Gibson, London	700	
W. R. Grace & Co.	200	14,900
OCT. 8.—By the *Benedict*=Pará:		
Reimers & Meyer		1,100
OCT. 10.—By the *Avala*=Mexico:		
H. Marquardt & Co	2,500	
L. Johnson & Co	1,500	
Thebaud Brothers	1,200	
E. Steiger & Co.	1,000	
J. Agostini	1,000	
E. Tibbals	700	
Graham, Hinckley & Co.	500	
F. Probst & Co	500	
John Kerr	300	
J. Mendy	200	9,400
OCT. 12.—By the *Athos*=Greytown:		
George Dreyfuss, Paris	4,000	
Andreas & Co.	3,500	
A. P. Strout	3,500	
Guiterman, Rosenfeld & Co.	2,000	
Munoz & Espriella	1,200	
G. Amsinck & Co	1,100	
A. D. Straus & Co.	1,000	
Mecke & Co.	200	16,500
OCT. 13.—By the *Finance*=Colon:		
A. Santos & Co	20,860	
Hirzel, Feltman & Co.	20,506	
G. Amsinck & Co.	17,683	
Flint, Eddy & Co.	4,285	
Dumarest & Co.	3,412	
Crude Rubber Co.	3,100	
Munoz & Espriella	1,700	
Piza, Nephews & Co.	1,206	
Frame, Alston & Co.	1,038	
W. R. Grace & Co	855	
Ascensio & Cassio	700	
D. A. De Lima & Co.	616	
J. W. Wupperman	360	
Pomares & Cushman	275	
Roldan & Van Sickle	220	
A. M. Capen Sons	110	
Jose Agostini	61	76,700
OCT. 15.—By the *Bufon*=Pernambuco:		
Thomsen & Co.		8,000
OCT. 17.—By the *Ardandhu*=Belize:		
Eggers & Heinlein	1,200	
Otto G. Mayer & Co.	700	
Wm. Goslen, Hamburg	500	
James Gibson, London	300	
Wallace, Muller & Co	300	2,900
OCT. 18.—By the *Alleghany*=Cartagena:		
Kunhardt & Co.	7,500	
Flint, Eddy & Co.	3,800	
John Boyd, Jr. & Co.	800	
Punderford & Co	500	12,600
OCT. 19.—By the *Hudson*=New Orleans:		
L. Johnson & Co	11,000	
Albert T. Morse & Co	6,000	17,000
OCT. 21.—By the *Alliance*=Colon:		
G. Amsinck & Co.	15,425	
Roldan & Van Sickle	13,523	
Hirzel, Feltman & Co	3,804	
Flint, Eddy & Co	3,691	
A. M. Capen Sons	2,595	
Mosle Brothers	1,424	
Dumarest & Co.	1,401	
Andreas & Co	1,054	
A. Santos & Co.	762	
Thebaud Brothers	600	
Ascensio & Cassio	362	44,641
OCT. 21.—By the *Lucania*=Liverpool:		
Reimers & Meyer		15,000

OCT. 24.—By the *Altai*=Greytown:

A. P. Strout	4,500	
Andreas & Co	1,500	
Hoadley & Co	2,000	
Kunhardt & Co	400	
A. N. Ratholz	2,500	
George Dreyfuss, Paris	1,000	
G. Amsinck & Co	400	12,300

OCT. 24.—By the *Biela*=Rio Janeiro:

Elmenhurst & Co		700

OCT. 24.—By the *Louisiana*=New Orleans:

Albert T. Morse & Co		2,000

AFRICANS.

POUNDS.

SEPT 30.—By the *Britannic*=Liverpool:

Joseph Banigan	19,500	

OCT. 1.—By the *Etruria*=Liverpool:

George A. Alden & Co	7,800	
Crude Rubber Co	10,000	
William Wright & Co	5,500	
Livesey & Co	8,800	31,900

OCT. 4.—By the *Patria*=Hamburg:

Livesey & Co		6,300

OCT. 4.—By the *Southwark*=Antwerp:

Reimers & Meyer		9,200

OCT. 5.—By the *Majestic*=Liverpool:

Livesey & Co	12,800	
George A. Alden & Co	5,500	
Crude Rubber Co	4,000	22,300

OCT. 8.—By the *British King*=Antwerp:

Albert T. Morse & Co		8,800

OCT. 8.—By the *Campania*=Liverpool:

Livesey & Co	29,600	
Reimers & Meyer	14,000	
George A. Alden & Co	8,900	
Crude Rubber Co	9,300	
Albert T. Morse & Co	6,000	67,700

OCT. 10—By the *La Champagne*=Havre:

Reimers & Meyer		3,600

OCT. 10.—By the *Statendam*=Rotterdam:

A. T. Morse & Co		3,500

OCT. 12.—By the *Westernland*=Antwerp:

George A. Alden & Co	47,000	
Crude Rubber Co	48,300	
A. T. Morse & Co	22,500	117,800

OCT. 14.—By the *Germanic*=Liverpool:

Crude Rubber Co	7,500	
George A. Alden & Co	5,300	12,800

OCT. 15.—By the *Phœnicia*=Hamburg:

Reimers & Meyer		5,500

OCT. 17.—By the *Umbria*=Liverpool:

Reimers & Meyer	32,000	
George A. Alden & Co	7,800	
Crude Rubber Co	8,900	
Livesey & Co	3,300	52,000

OCT. 19—By the *Teutonic*=Liverpool:

W. D. Morton		7,000

OCT. 19.—By the *British Queen*=Antwerp:

Albert T. Morse & Co		13,000

OCT 21.—By the *Vega*=Lisbon:

Albert T. Morse & Co		11,000

OCT. 21.—By the *Pennsylvania*=Hamburg:

Reimers & Meyer	25,000	
George A. Alden & Co	17,000	42,000

OCT. 21.—By the *Lucania*=Liverpool:

Reimers & Meyer	25,000	
Livesey & Co	6,000	
W. D. Morton	15,000	
George A. Alden & Co	1,000	47,000

OCT. 24.—By the *Belgenland*=Southampton:

Reimers & Meyer		1,500

EAST INDIAN.

POUNDS.

SEPT. 26.—By the *Pathan*=Singapore:

Robert Soltau & Co		27,200

SEPT. 27.—By the *Marquette*=London:

Frank Greene		3,000

OCT. 6—By the *Benmohr*=Singapore:

J. W. Greene & Co	58,800	
Reimers & Meyer	7,700	
George A. Alden & Co. (Pontianak)	150,000	
Reimers & Meyer (Pontianak)	89,600	
J. W. Greene & Co (Pontianak)	53,000	358,900

OCT. 19.—By the *Leitrim*=London:

George A. Alden & Co		2,100

OCT. 20.—By the *Fortuna*=Singapore:

J. W. Greene & Co	10,000	
J. W. Greene & Co (Pontianak)	90,000	
Reimers & Meyer (Pontianak)	220,000	
Windmuller & Roelker (Pontianak)	11,000	331,000

OCT. 20.—By the *Sikh*=Singapore:

George A. Alden & Co. (Pontianak)		68,000

OCT. 22.—By the *Mayfield*=Calcutta:

Reimers & Meyer		7,100

OCT. 24—By the *Belgenland*=Southampton:

Albert T. Morse & Co		6,000

GUTTA-PERCHA AND BALATA.

POUNDS.

OCT. 4.—By the *Patria*=Hamburg:

Robert Soltau & Co		7,500

OCT. 4.—By the *Menominee*=London:

Lamb Manufacturing Co	1,200	
A. G. Spalding & Bros	1,200	2,400

OCT. 5.—By the *Bulgaria*=Hamburg:

George A. Aiden & Co		4,600

Oct. 19.—By the *Georgian*=London:

Lamb Manufacturing Co		1,200

OCT. 21.—By the *Pennsylvania*=Hamburg:

Robert Soltau & Co		2,500

BALATA.

SEPT. 28.—By *Prins Fred'k Hendrick*=Surinam:

Middleton & Co	15,000	
Kunhardt & Co	300	15,300

OCT. 10.—By the *Grenada*=Trinidad:

Middleton & Co	5,000	
For Export	4,000	
Flint, Eddy & Co	3,000	
George A. Alden & Co	1,000	13,000

CUSTOM-HOUSE FIGURES.

PORT OF NEW YORK—SEPTEMBER.

Imports:	POUNDS.	VALUE.
India-rubber	1,964,602	$1,196,573
Gutta-percha	32,048	15,0 4
Jelatong (Pontianak)	1,027,003	19,387
Total	3,023,653	$1,230,984
Exports:		
India-rubber	49,187	$33,031
Reclaimed rubber	166,429	17,178

[NOTE.—The average price of India-rubber imported was 60.9 cents per pound; in August, 64.01 cents; in July, 60.09; in June, 56.5; in May, 60; in April, 59.8; in March, 54.8; in February, 57.5; in January, 53.4 cents.]

BOSTON ARRIVALS.

POUNDS.

SEPT. 2.—By the *Moravia*=Hamburg:

Reimers & Meyer - African	3,000

SEPT. 2.—By the *Colombian*=London:

George A. Alden & Co.—East Indian	1,000

SEPT. 7.—By the *New England*—Liverpool:

Sgal & Co.—African	6,000

SEPT. 7.—By the *Michigan*=Liverpool:

Reimers & Meyer.—Central	4,700
George A. Alden & Co.—African	13,200

SEPT. 13.—By the *Sylvania*=Liverpool:

Sgal & Co.—African	5,700

SEPT. 14.—By the *Bay State*=Liverpool:

Reimers & Meyer—African	10,000
Reimers & Meyer—Caucho	4,500

SEPT. 21.—By the *Sachem*=Liverpool:

Sgal & Co.—African	1,400
Boston Rubber Shoe Co.—Caucho	16,700

SEPT. 26.—By the *Corinthia*=Liverpool:

George A. Alden & Co.—African	2,400

GUTTA-PERCHA.

POUNDS.

SEPT. 16.—By the *Bohemia*=Hamburg:

George A. Alden & Co	4,600

NEW ORLEANS.

SEPTEMBER.

	POUNDS.	VALUE.
From Nicaragua	34,405	$23,710

SEPTEMBER EXPORTS OF INDIA-RUBBER FROM PARA.

[NOTE.—The figures denote weights in Kilograms.]

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Pusinelli, Prüsse & Co	25,870	3,052	32,300	13,640	74,862	154,020	17,680	63,600	900	236,200	311,062
Adelbert H. Alden	83,685	20,135	20,458	9,574	133,852	77,010	8,500	47,660	—	133,170	267,022
Rudolf Zietz	20,295	3,969	11,360	—	35,624	149,073	12,904	55,978	3,390	221,345	256,969
La Rocque da Costa & Co	—	3,717	19,945	—	23,662	137,153	12,523	69,037	990	219,703	243,365
Denis Crouan & Co	—	—	—	—	—	38,730	4,500	6,112	—	49,342	49,342
The Sears Pará Rubber Co	16,320	2,040	5,750	—	24,110	9,280	2,112	3,022	—	14,414	38,524
B. A. Antunes & Co	6,460	340	280	—	7,080	7,650	1,700	2,520	—	11,870	18,950
H. A. Astlett	9,453	924	4,315	—	14,692	—	—	—	—	—	14,692
Velhote, Silva & Co	—	—	—	—	—	—	—	5,400	—	5,400	5,400
Singlehurst, Brocklehurst & Co	—	—	—	—	—	2,560	1,068	517	—	4,145	4,145
R. Suarez	—	—	—	—	—	1,170	241	—	—	1,411	1,411
Sundry small shippers	—	—	—	—	—	19,550	397	8,380	—	28,327	28,327
Direct from Manáos	58,358	7,140	10,244	1,843	77,585	249,208	32,732	60,637	6,396	348,973	426,558
Total for September	220,441	41,317	104,652	25,057	391,467	845,404	94,357	322,863	11,676	1,274,300	1,665,767
Total for August	301,410	41,954	150,751	45,425	539,540	357,853	51,520	213,266	38,420	661,059	1,200,599
Total for July	216,951	18,447	133,361	95,572	464,331	341,161	50,789	166,084	181,008	739,042	1,203,373
January–June	2,880,545	539,466	1,512,627	590,592	5,523,280	3,025,671	532,549	1,292,071	787,354	5,637,645	11,160,925
Total during 1898	3,621,347	641,184	1,901,391	756,646	6,918,618	4,570,089	729,215	1,994,284	1,017,458	8,312,046	15,230,664